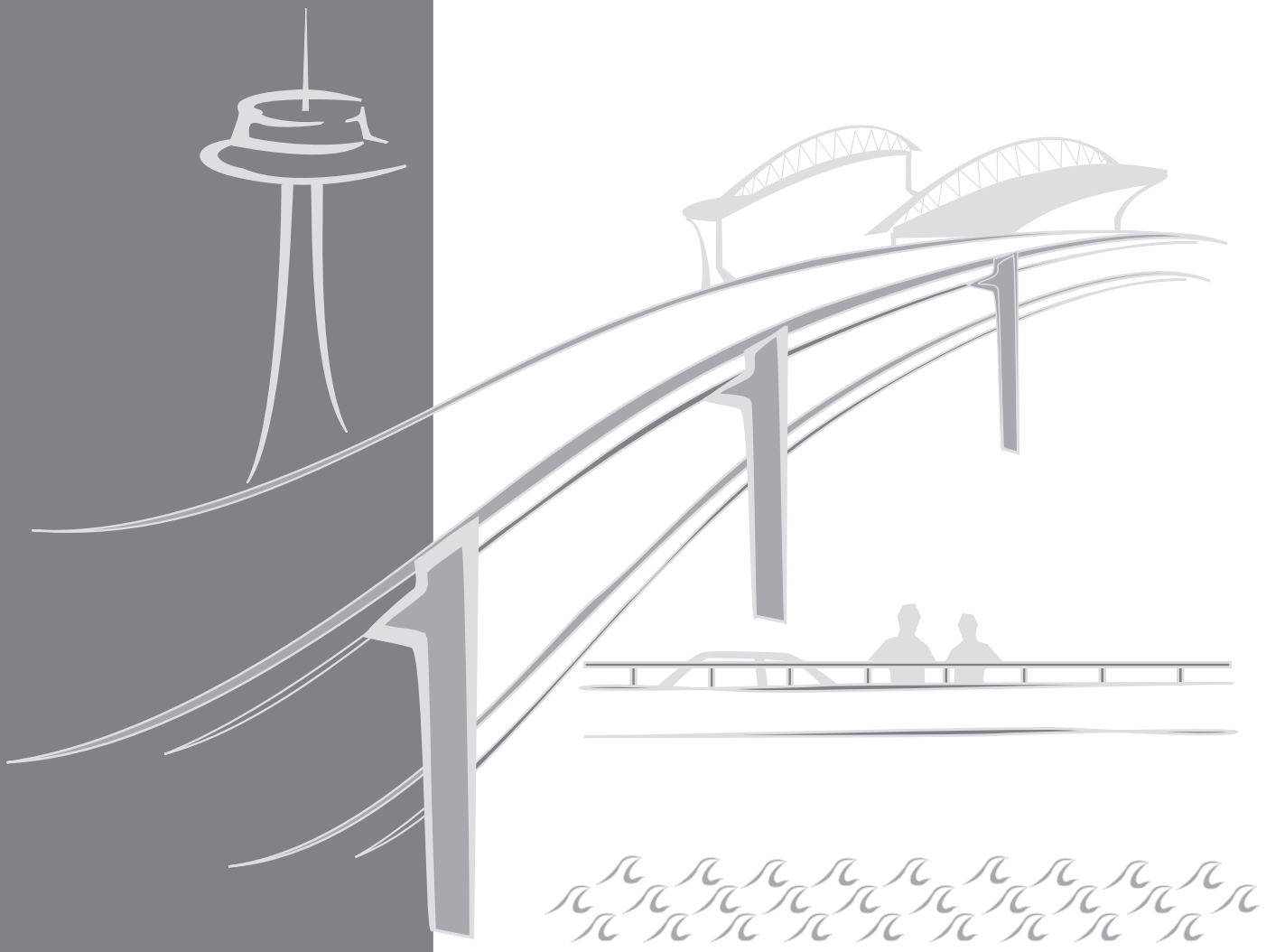
SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROJECT

Draft Environmental Impact Statement
Appendix G
Land Use and Shorelines Technical Memorandum



MARCH 2004

Submitted by:
PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

Prepared by:
PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

U.S. Department of Transportation Federal Highway Administration

Washington State Department of Transportation

City of Seattle

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SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROJECT

Draft EIS
Land Use and Shorelines Technical Memorandum

AGREEMENT NO. Y-7888

FHWA-WA-EIS-04-01-D

Submitted to:

Washington State Department of Transportation
Alaskan Way Viaduct and Seawall Replacement Project Office
999 Third Avenue, Suite 2424
Seattle, WA 98104

The SR 99: Alaskan Way Viaduct & Seawall Replacement Project is a joint effort between the Washington State Department of Transportation (WSDOT), the City of Seattle, and the Federal Highway Administration (FHWA). To conduct this project, WSDOT contracted with:

Parsons Brinckerhoff Quade & Douglas, Inc.

999 Third Avenue, Suite 2200
Seattle, WA 98104

In association with:

BERGER/ABAM Engineers Inc.
BJT Associates
David Evans and Associates, Inc.
Entech Northwest
EnviroIssues, Inc.
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Tom Warne and Associates, LLC
William P. Ott

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TABLE OF CONTENTS

LIST OF EXHIBITS

ACRONYMS

AWV	Alaskan Way Viaduct
BNSF	Burlington Northern and Santa Fe Railroad Company
BST	Battery Street Tunnel
CM	Conservancy Management
CZM	Coastal Zone Management
DH	Downtown Harborfront
FHWA	Federal Highway Administration
GMA	Growth Management Act
IC	Industrial/Commercial
M&I	Manufacturing and Industrial
RCW	Revised Code of Washington
UGAs	Urban Growth Areas
UG	Urban General
UH	Urban Harborfront
UI	Urban Industrial
WSDOT	Washington State Department of Transportation

Chapter 1 SUMMARY

This Land Use Technical Memorandum describes the land uses and shoreline environments present along the alignment of the proposed Alaskan Way Viaduct (AWV) and Seawall Replacement Project and the impacts the project alternatives may have on these uses. It also discusses the project's consistency with state, regional, and local plans and policies. The project alternatives and options are described in detail in Appendix B, Alternatives Description and Construction Methods Technical Memorandum.

For discussion purposes, the project has been broken into the following sections:

- The South area of the project extends from S. Spokane Street to S. King Street.
- The Central area of the project extends from S. King Street up to the Battery Street Tunnel (BST).
- The North Waterfront extends from Pike Street up to Myrtle Edwards Park (near Broad Street).
- The North area of the project extends from the BST to approximately Ward Street near the south end of Lake Union.
- The Seawall extends from S. Washington Street up to Myrtle Edwards Park (near Broad Street).

1.1 Methodology, Studies, and Coordination

Plans, documents, and maps from the City of Seattle were reviewed to determine existing land uses and goals and policies for the study area. Field visits and photographs helped confirm land use changes. Potential impacts were assessed using proposed project alignment drawings for each of the alternatives considered.

1.2 Affected Environment

The proposed Alaskan Way Viaduct and Seawall Replacement Project will be constructed through a highly urbanized area adjacent to Seattle's waterfront and upland shores. A variety of land uses and zones are located along the project study area corridor. The primary uses encountered in the South are industrial and commercial; primary uses in the Central area include commercial retail and residential; and primary uses in the North are commercial, retail, and residential. The proposed project route passes through seven Seattle planning areas beginning in the South with the Greater Duwamish and Pioneer Square neighborhoods; moving to the Commercial

Core and Belltown neighborhoods in the Central area; and the Denny Triangle, Uptown (Queen Anne), and South Lake Union neighborhoods in the North.

Land and neighborhood uses are regulated and influenced by several state, regional, and local plans and policies. The following plans and policies for the AWV study area are considered in this report:

- Washington State Growth Management Act
- State Aquatic Lands Act
- Puget Sound Regional Council VISION 2020 and *Destination 2030*
- King County Comprehensive Plan and Countywide Planning Policies
- Seattle Municipal Code (including Zoning and Development regulations; Shoreline Master Program; State Environmental Policy Act regulations; Environmentally Critical Areas Ordinance; Stormwater, Grading, and Drainage Control Code; Design Review regulations; and neighborhood-specific Design Review Guidelines, where applicable, including Downtown and Uptown areas)
- Seattle Comprehensive Plan
- Seattle Capital Improvements Program
- Local neighborhood plans for the Greater Duwamish, Pioneer Square, Queen Anne, South Lake Union, Belltown, Commercial Core, Denny Triangle, Downtown, and Harborfront areas

1.3 Impacts

1.3.1 Consistency With Plans and Policies

The proposed project will generally support Growth Management Act policies pertaining to transportation and infrastructure improvements. The project will accommodate a variety of planned transportation facilities throughout the study area. The proposed Build Alternatives will be consistent with goals for providing infrastructure to urban areas and for directing high-density growth to urbanized locations.

The proposed project will comply with the direction of the Seattle Comprehensive Plan to provide infrastructure to Urban Village areas and to provide a range of transportation facilities that will accommodate transit, bicycles, and pedestrians. Comprehensive Plan goals assumed that the viaduct would stay in place and encourage downtown and local neighborhoods to accommodate connections to downtown and waterfront areas. The project will also meet some, but not all, goals and objectives in the local neighborhood plans.

1.3.2 No Build Alternative

This alternative will not directly address the current deficiencies in the viaduct structure. As such, existing land uses served by the structure will remain vulnerable to potential failure caused by earthquake or age-related conditions. In the event of partial or complete failure of the existing structure, access to local land uses may be disrupted, and nearby buildings could be damaged by falling debris under more severe conditions. Should the structure require partial or complete repair in the future, construction impacts similar to those described under the Build Alternatives below will occur.

1.3.3 Rebuild Alternative

This alternative will convert approximately 25.7 acres of land in Industrial and Downtown Harborfront zones to roadway facilities use. Disruptions to existing land uses will occur where buildings will be removed to accommodate new construction or where access to adjacent parcels is changed. Most of the potential zone changes will occur in the South; however, some parcels in the Central area will also be affected. Under the Rebuild Alternative, these potential impacts will be lower than under other Build Alternatives because much of the work will occur within the existing right-of-way. Few opportunities for redevelopment will occur as the structure will largely remain the same. A total net loss of approximately 270 existing on-street and off-street parking spaces could be displaced by this alternative.

Construction of the Rebuild Alternative, as with all Build Alternatives, will result in temporary access disruptions, as well as potential proximity impacts such as increased noise and dust from construction activities. Under each of the Build Alternatives, existing railroad tracks in the South will be removed, disrupting rail yard uses there. The Downtown Waterfront Streetcar tracks will also be relocated during construction. Portions of Terminal 46 will be used for construction staging.

1.3.4 Aerial Alternative

This alternative will convert approximately 32 acres of land, primarily in Industrial Commercial and Downtown Harborfront zones, to roadway facilities use. Most of this conversion will occur in the South; however, some impacts in the Central and North areas will also occur. A new aerial structure will continue to affect existing land uses in much the same way as the existing structure, where noise, air quality, and visual concerns have been noted. It will also continue the barrier effect between retail, tourist, and recreation land uses on the waterfront and the downtown retail and commercial core. Opportunities for redevelopment will be largely similar to those of the Rebuild Alternative. A net loss of approximately 360 existing on-street and

off-street parking spaces will occur. Construction impacts will be similar to those of the Rebuild Alternative.

1.3.5 Tunnel Alternative

This alternative will convert approximately 36.7 acres of land, primarily in Industrial Commercial, Industrial General, and Downtown Harborfront zones, to roadway facilities use. Most of these conversions will occur in the South; however, some of the Central and North areas will also be affected. Removal of the current overhead structure will result in creating new open areas where new land uses could occur, primarily in the Central area. Replacement of the aerial structure with an underground tunnel will also offer enhanced opportunities for improved connections, both physically and visually, between the waterfront and the downtown core. A net loss of approximately 670 existing on-street and off-street parking spaces will occur. Construction impacts in the South will be similar to those of the Rebuild Alternative. Because of the complexities involved with tunnel construction, construction durations may be longer for this alternative than for other Build Alternatives.

1.3.6 Bypass Tunnel Alternative

This alternative will convert approximately 36.7 acres of land, primarily in Industrial Commercial, Industrial General, and Downtown Harborfront zones, to roadway facilities use. Operation of this alternative will have similar impacts on adjacent land uses as those of the Tunnel Alternative, particularly in the Central area. Opportunities for redevelopment and new connections between downtown and the waterfront will be similar to those of the Tunnel Alternative. A net loss of approximately 710 on-street and off-street parking spaces will occur. Construction impacts will be similar to those of the Tunnel Alternative.

1.3.7 Surface Alternative

This alternative will convert approximately 49.7 acres of land, primarily in Industrial Commercial, Industrial General, and Downtown Harborfront zones, to roadway facilities use. Most of these conversions will occur in the South; however, some impacts will also occur in the Central and North areas. A new surface roadway will remove the overhead structure, but may result in a different physical barrier to pedestrian movement between the waterfront and downtown. Removal of the existing structure will also create new visual connections to the waterfront. Impacts on other land uses will be similar to those of the other Build Alternatives. A net loss of approximately 720 on-

street and off-street parking spaces will occur. Construction impacts in the South will be similar to those of the Rebuild Alternative.

1.4 Mitigation Measures

Mitigation measures for land use impacts are not proposed. Measures for specific impacts on buildings and parcels are discussed in Appendix K, Relocations Technical Memorandum.

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Chapter 2 METHODOLOGY

This report utilizes plans, policies, and maps from Seattle and King County to identify existing land uses in the study area. Field visits were conducted and study area photographs were used to confirm existing land uses. The study area was defined by the northern and southern project limits of the proposed project routes and through review of neighborhood planning areas and census tract boundaries. Potential land use impacts associated with the various Build Alternatives were determined by comparing conceptual alignment drawings of the proposed project facilities against maps, photos, and field data. The Seattle Comprehensive Plan, zoning code, local neighborhood plans, regional plans, and Shoreline Master Program were reviewed to evaluate the project's relationship to existing regulations and policies. The Washington State Department of Transportation (WSDOT) Environmental Procedures Manual provided direction on land use concerns consistent with Federal Highway Administration (FHWA) guidance for environmental document preparation.

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Chapter 3 STUDIES AND COORDINATION

Analysis for this Land Use Technical Memorandum was prepared using information obtained from a variety of sources. Agency and environmental documents, local maps, project drawings, aerial photographs, and field visits provided information on existing conditions in the project area. Neighborhood, local, and regional plans, as well as the City of Seattle Comprehensive Plan and zoning ordinance, were reviewed to identify regulations, goals, and polices associated with local land uses.

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Chapter 4 AFFECTED ENVIRONMENT

The Alaskan Way Viaduct passes through a variety of land use zones and types within the 3.5-mile project study area. The study area lies entirely within an urban environment adjacent to the core of downtown Seattle at Third Avenue on the east and the waterfront along Elliott Bay on the west. Beginning in the south, the study area extends from approximately S. Spokane Street in the Duwamish Industrial neighborhood, north to approximately Ward Street near the South Lake Union neighborhood. Land use types in the study area vary and include industrial, commercial, retail, and residential uses. Exhibit 4-1 provides a map of the Seattle neighborhood planning areas. A generalized map of existing land uses in the project area is provided by Exhibits 4-2 through 4-4.

In the South, the Duwamish industrial area contains Seattle's largest concentration of manufacturing and industrial businesses. Most of the City's recent growth in manufacturing employment has occurred in the Duwamish area. Land uses there primarily include warehousing, distribution, and manufacturing activities. Some sections of non-industrial uses are intermixed throughout the South, with the most prominent among these being the Seattle Mariner's Safeco Field area at the northern end of this neighborhood.

Land uses in the Pioneer Square area include retail, restaurants, art galleries, offices, and residential. Additionally, as one of the oldest parts of Seattle, the area has been designated a historic district and is a focal point for many tourist and entertainment activities.

The Central area includes the downtown Commercial Core, the retail center of the city, which includes numerous office and business uses as well. This area also includes central waterfront recreation and business uses. The Commercial Core forms the center of business activity downtown and, while individual buildings have come and gone, the general uses there have not changed greatly in recent years. Large, high-density buildings dominate many of the city blocks, and numerous smaller urban service uses are scattered throughout the downtown area. This area represents a substantial employment base for the City and it has become a major center for shopping, tourist, and convention activities. Office development continues downtown, and recently, renewed interest in living downtown has helped contribute to additional residential development near the Commercial Core.

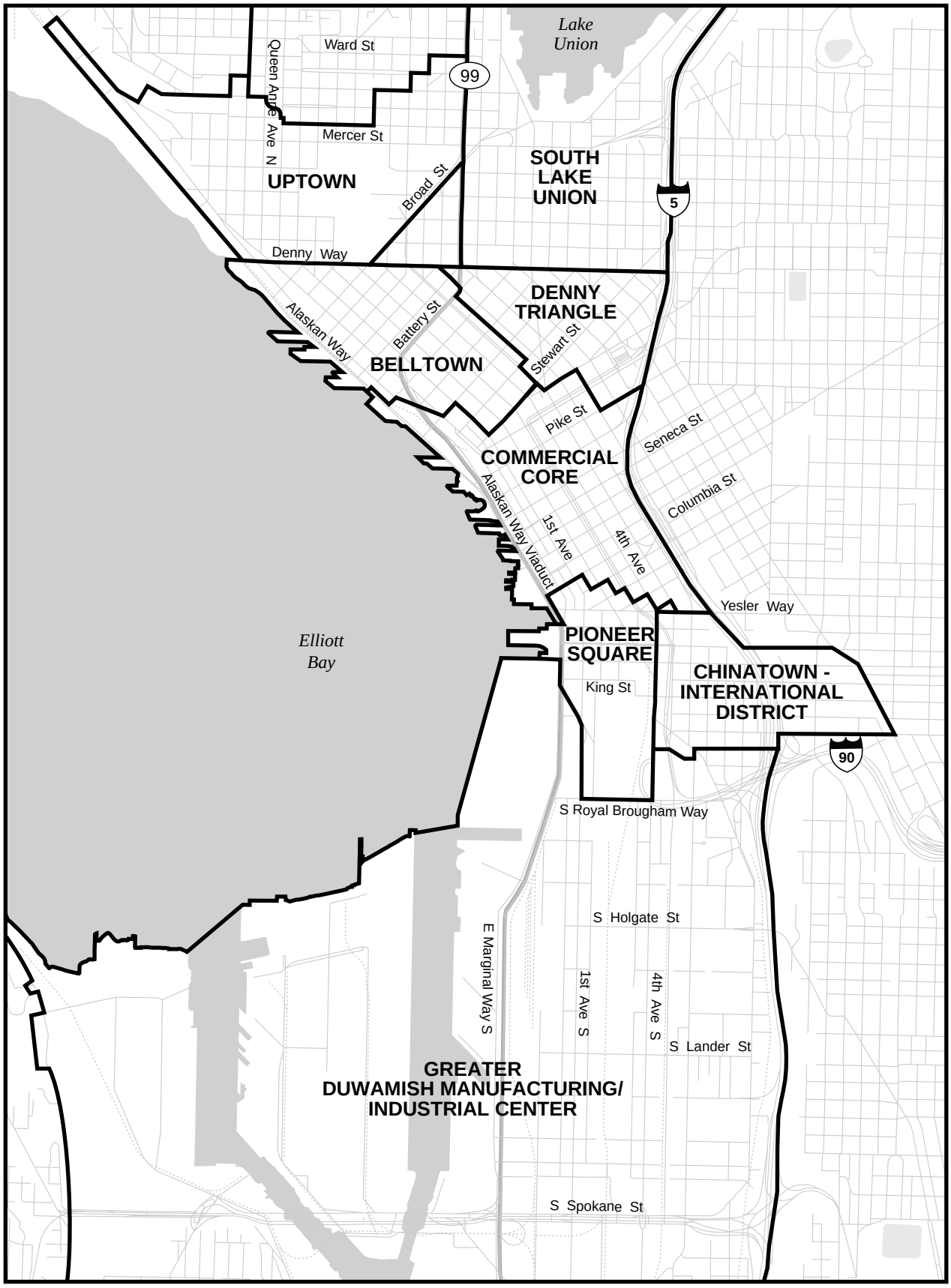

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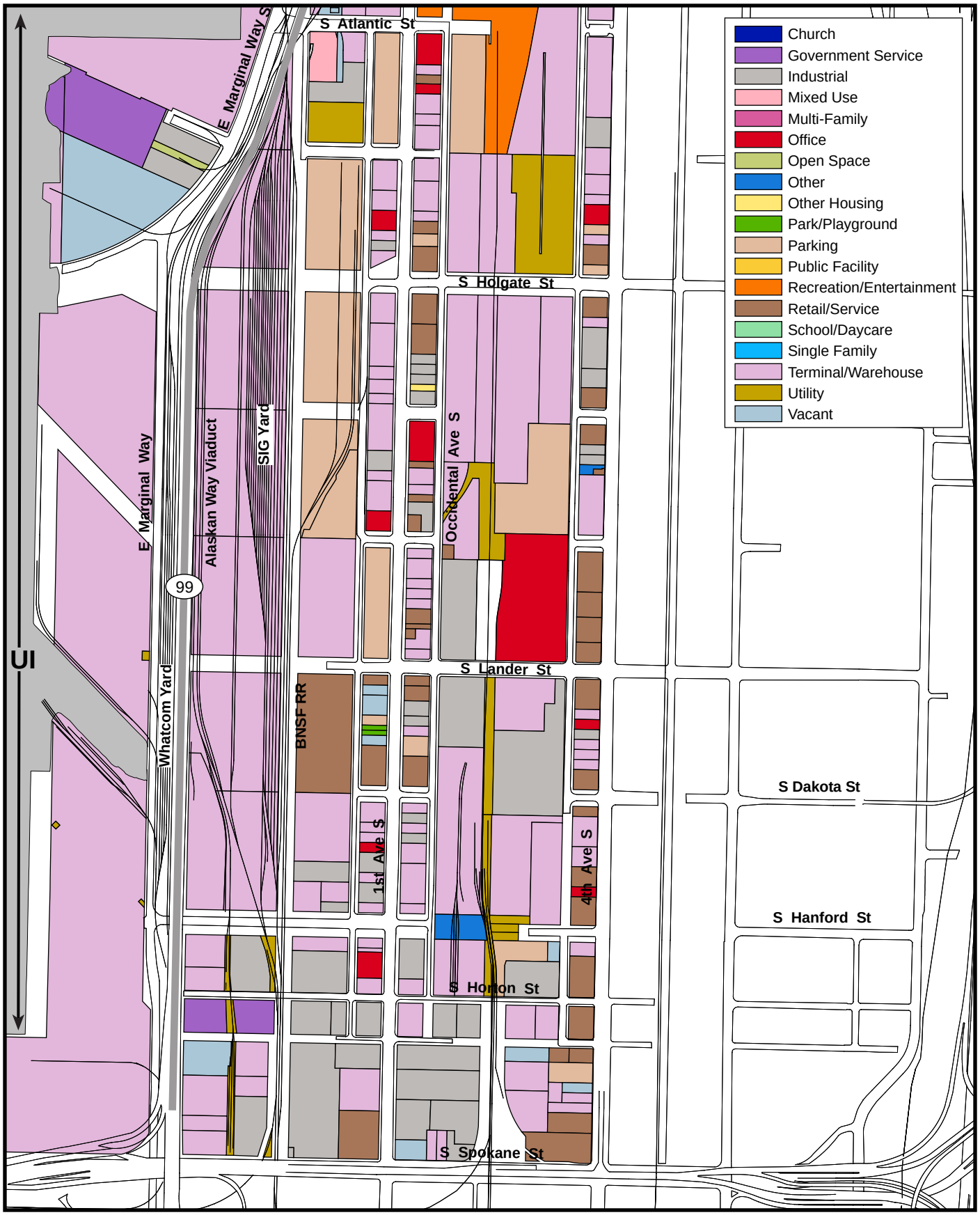
Exhibit 4-1
Land Use Study Area
Neighborhood Planning Areas



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Shoreline Environments:

UI - Urban Industrial

Exhibit 4-2
Existing Land Use and Shoreline Enviroments - South

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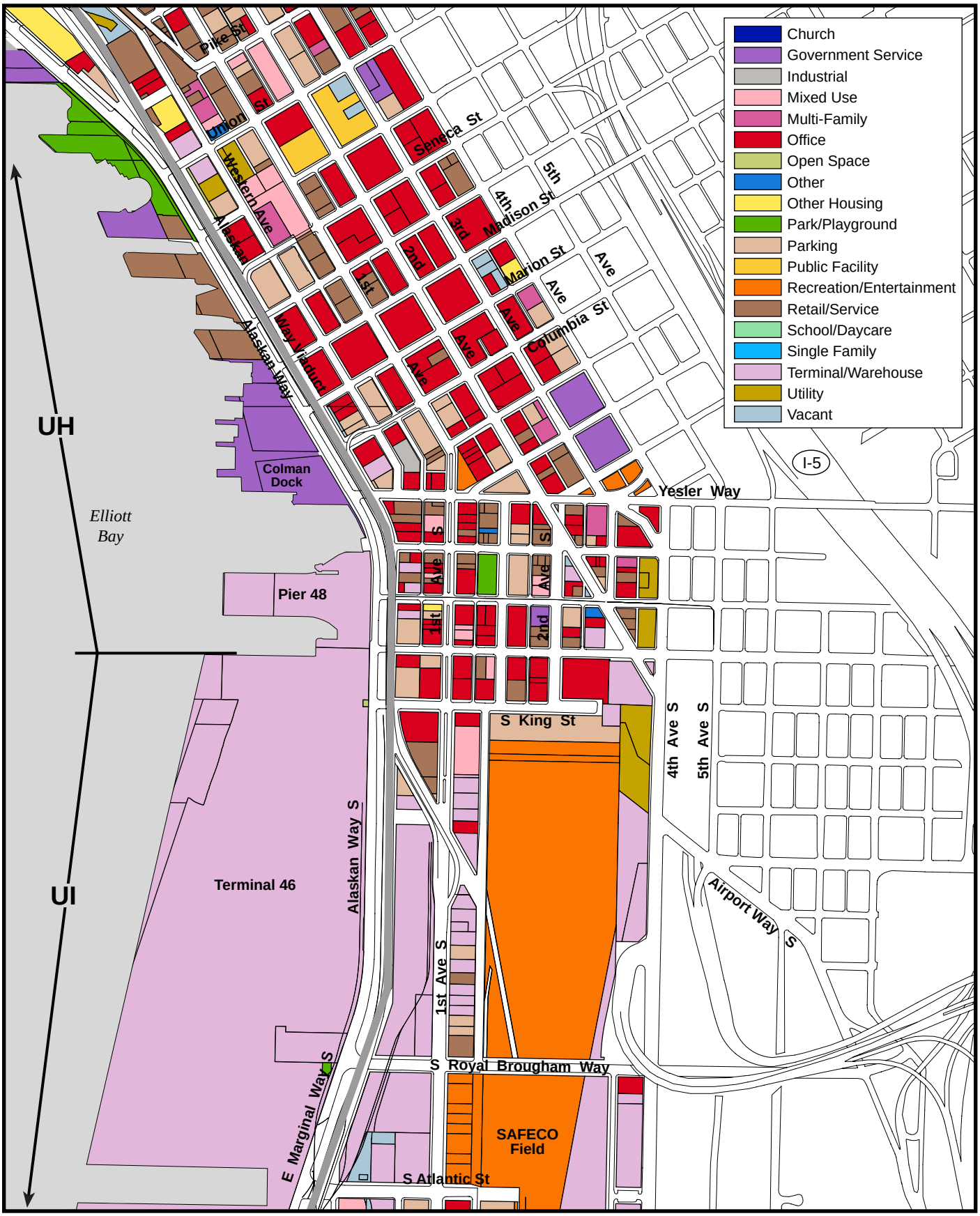

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Shoreline Environments:

UH - Urban Harborfront
UI - Urban Industrial

Exhibit 4-3
Existing Land Use and Shoreline Enviroments - Central

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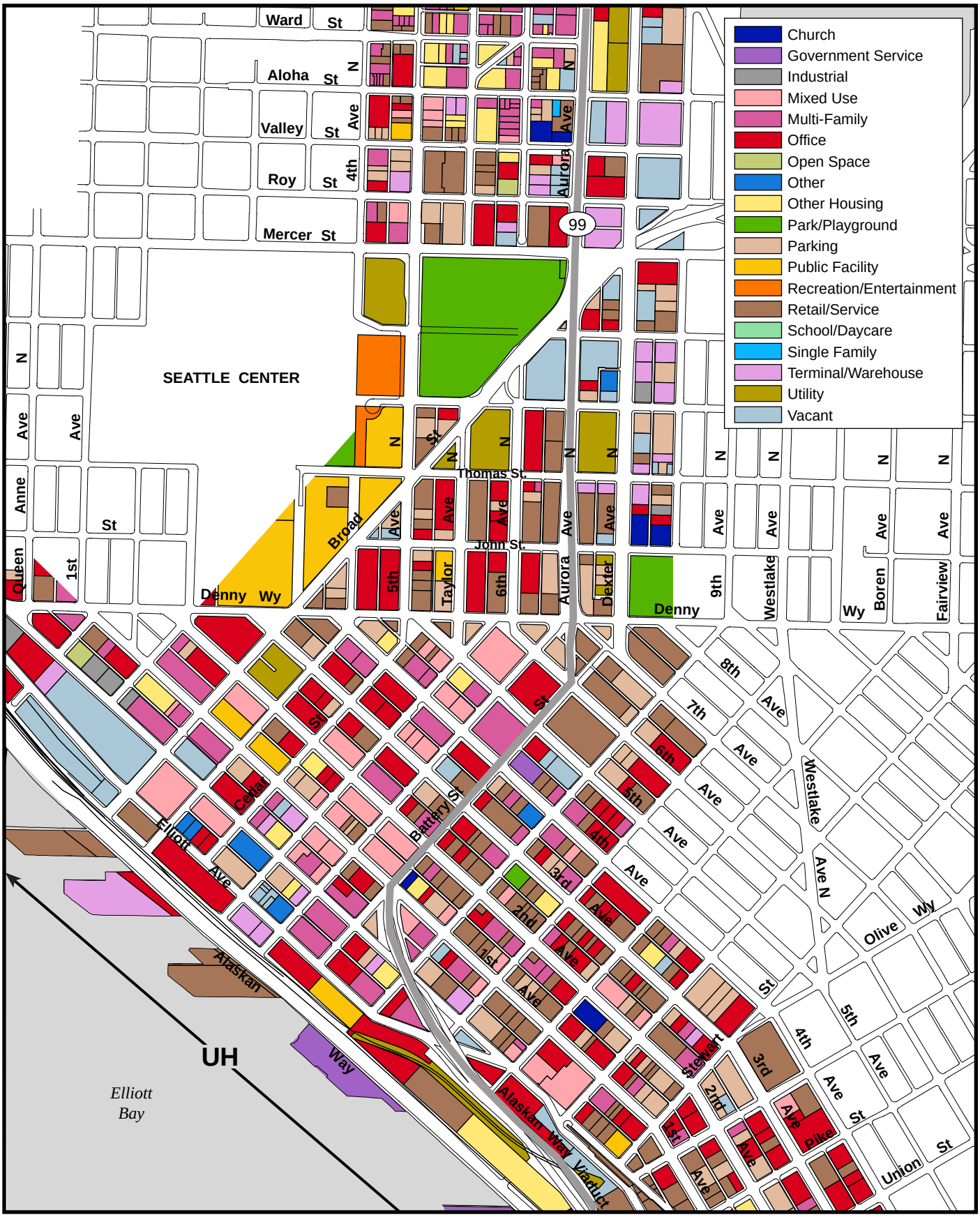

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Shoreline Environments:

UH - Urban Harborfront

Exhibit 4-4
Existing Land Use and Shoreline Enviroments - North

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North of downtown, from the Belltown neighborhood to South Lake Union, there is a mix of commercial, retail, restaurant, and residential uses. A new focus on residential development has emerged in Belltown recently, where a combination of condominium and multifamily apartment buildings have been constructed or planned. Retail, restaurant, and office uses have also increased in the Belltown neighborhood. The adjacent Denny Triangle neighborhood includes a combination of older commercial and residential uses mixed with a number of surface parking lots and undeveloped parcels. As the downtown neighborhood fills in, the Denny Triangle is expected to transition from its current somewhat underutilized character to one of a mixed-use residential and commercial center, including some new hotel and retail uses. Recent activity there reflects this trend, with development of high-rise office and residential uses and construction of the new federal courthouse.

The South Lake Union area includes a combination of residential, commercial, and small-scale manufacturing land uses. Office and retail services are dominant and mixed with residential and restaurant uses closer to the water. Job growth in the area has been strong recently, contributing to increased commercial and residential development there.

Specific land uses immediately adjacent to either side of the AWV Corridor reflect the neighborhood areas the roadway passes through. Primary businesses or uses adjacent to, or in close proximity to, the project area are identified above.

4.1 South – S. Spokane Street to S. King Street

In the South, uses are primarily industrial and commercial. Beginning south of S. Spokane Street to the west side of SR 99, commercial and industrial uses are evident and include businesses such as Andrews Machinery, Praxair Distributors, and Sawdust Supply Company. The east side of SR 99 also has industrial and commercial uses, including ISSC Inc./Seaport Steel, Australia Unlimited Importers, and Puget Mechanical. North of S. Spokane Street, these uses continue with the Port of Seattle Terminals 25 and 30 occupying much of the area to the west and numerous commercial buildings to the east, including the Port of Seattle Maintenance Shop, Cargill/ENA Couriers, Hanford Center, and Odom Company warehouse. Recreational uses are represented by Safeco Field and Seahawks Stadium, both located on the east side of SR 99. The Burlington Northern Santa Fe Railroad Company (BNSF) has a rail yard and an extensive network of tracks in this section of the project area, and the Union Pacific rail yard and tracks are also present there, both east and west of SR 99, which further reflects the industrial and commercial nature of land uses in the area.

4.2 Central – S. King Street to Battery Street Tunnel

Land uses in the Central area consist of numerous businesses and historic buildings in Pioneer Square and business and retail uses in the downtown Commercial Core area, along with residential uses. The Downtown Waterfront Streetcar also runs through this area. Beginning north of S. King Street to Yesler Way, selected buildings adjacent to the viaduct on the east include 83 King Street office building; Merrill Place, including the Merrill Place Parking Garage and Old Theatre office building; the Old Seattle Parking Garage; Argens; the Washington Park Building; Prudential Building; and 1 Yesler Way Building. The Port of Seattle Terminal 46 and Pier 48 are located on the west.

North of Yesler Way, the area begins to transition from Pioneer Square to the central business district and Pike Place Market in the Commercial Core neighborhood. In this area, businesses adjacent to the viaduct on the west include Washington State Ferries Colman Dock at Pier 52, Fire Station No. 5 at Pier 53, Ivar's Seafood and the Olde Curiosity Shop at Pier 54, the Red Robin restaurant at Pier 55, Argosy Cruises and Elliott's Restaurant at Pier 56, the Bay Pavilion shops at Pier 57, and the Seattle Aquarium at Pier 59.

On the east side of the viaduct, buildings in this area include Polson Office Building, Colman Parking Garage, Commuter Center Building, Maritime Building, Waterfront Place One, 1201 Western Building, Immunex Building, Seattle Steam Plant, Shurgard Mini Storage, Market Square Office Building, Hillclimb Court, and Market Place North Office Building.

4.3 North Waterfront – Pike Street to Myrtle Edwards Park

Land uses along the north waterfront consist of a mix of retail, residential, and office uses. Along the west side of the viaduct, adjacent buildings include the Waterfront Landings Condos, Marriott Hotel, Microsoft, World Trade Center, Elliott Pointe Apartments, Art Institute, Belltown Loft Condos, Compton Building, and Prodata.

On the east side of the viaduct, buildings include the Madore Building, Fix Building, Pike Place Market, Victor Steinbrueck Park, Market Place North Office Building, Elliott Court, Cort Furniture, Baccono, Oregon Hotel, and The Pomeroy.

4.4 North – Battery Street Tunnel to Ward Street

Land uses in the North are primarily a mix of commercial/business uses and multifamily residential uses as the AWV Corridor turns northeast toward Lake Union. The proposed project will take similar routes as it passes

through the Belltown neighborhood from Alaskan Way to Denny Way before connecting with SR 99/Aurora Avenue N. Buildings north of the Battery Street Tunnel extending to Broad Street include commercial/residential uses such as the Site 17 Apartments, N17 Apartments, Ellis Court, 81 Vine, Bonner Building, Vine Building, Millionaires Club Charity, Elliott Bay Plaza, 2716 Residential Towers, Avalon Belltown Apartments, Elliott Apartments, Pinnacle Productions, Seattle Art Institute, World Trade Center North, Real Networks, Northwest Protective Services, Elliott & Clay Apartments, and The Old Spaghetti Factory. The Belltown PeaPatch and cottages are also located there. The proposed Olympic Sculpture Park will be located north of Broad Street, between Western Avenue and the waterfront, near Pier 70. Myrtle Edwards Park is located nearby, approximately two blocks north of Pier 70. The Waterfront Streetcar route runs the length of the downtown waterfront from Broad Street to S. Main Street.

Most of the proposed alignments will join Aurora Avenue N. at Denny Way. Beginning at Denny Way and extending north to Ward Street, representative existing uses along Aurora Avenue N. on the west include a Texaco service station, Seattle Inn, Denny's Restaurant, Vagabond Inn, Seattle Maintenance Yard, parking lot, Comfort Inn, Pacific Capitol Building, Studio 3, and apartments. On the east side of Aurora Avenue N. in this area, uses include a parking lot, Holiday Inn, King Broadcasting Company, Clark Parking, Hostess Cake Baking Company, 500 Aurora building, Copiers Northwest, Gusto Furniture, 701 Dexter Building, and Alterra Condos.

4.5 Seawall – S. King Street to Myrtle Edwards Park

Land uses in this area are the same as described under Section 4.2 (Central – S. King Street to Battery Street Tunnel) and Section 4.3 (North Waterfront – Pike Street to Myrtle Edwards Park).

4.6 Development Activity and Trends

Downtown area development, in particular, has changed greatly during the past decade. The focus of the downtown and central waterfront areas has broadened from primarily employment-related uses to becoming a major center for tourism and recreation, retail shopping, meeting and convention activities, and entertainment. Increasingly, the area has also provided space for new businesses, in particular, to those devoted to high technology uses.

Along with movement toward revitalizing overall downtown activities, the area has seen an emphasis on providing new residential opportunities along with revitalization efforts for the retail core, the central waterfront, and the south downtown area. With these activities, office development has slowed

during recent years; however, new proposals for office and mixed-use developments are starting to occur again.

As the downtown area evolves, land uses north and south of the main downtown core area have also changed. In the South, a major stimulus for this change has come from construction of the City's new sports complexes. In the North, land uses are reflecting the new attraction of living and working downtown, as well as an increased interest in visitors seeking accommodations and services near downtown destinations.

Development activity recently has reflected current economic conditions. High unemployment and slow growth have resulted in a downturn in development conditions in the area. A report prepared for the Seattle Strategic Planning Office, completed in December 2001 (Craig Kinzer and Company et al. 2001a), describes the following downtown market conditions:

"Downtown Seattle's office market reflects current national and regional business/economic trends, including setbacks in the technology sector and a weakened overall economy...(which have) led to increased vacancy rates and softened rental rates."

The same report (Craig Kinzer and Company et al. 2001a) stated that, "Downtown has experienced significant residential development over the past several years, particularly in the Belltown neighborhood. The surge in multi-family construction, both market rate rental units and condominium units, has been fueled by the growing demand for housing options near employment centers."

Recent sources indicate that trends in office and residential development downtown reported in the Seattle Strategic Planning Office study are continuing. A local real estate market report (CB Richard Ellis 2003) indicates that, "the Puget Sound economy remains stagnant and vulnerable to additional Boeing layoffs. Employment growth in the first quarter of 2003 decreased 0.06%." While most sectors have been influenced by economic sluggishness, the Seattle Central Business District has experienced healthy office space leasing activity in 2003. No new office buildings were delivered during the first half of 2003, and the forecast for the Central Business District is for the supply of office space available for lease to begin to decrease slowly (Kidder Mathews 2003). Much of the planned office space downtown is not expected to be provided until the economy improves (Downtown Seattle Association 2003).

The Seattle Central Business District did experience a dramatic decrease in the amount of retail vacancies during the first half of 2003, with vacancies decreasing from 6.43 percent in the second quarter of 2002 to 3.67 percent for

the first half of 2003. During this same period, retail construction activity in the area was slow (CB Richard Ellis 2003).

Industrial development in the central Seattle area has generally reflected that of the region, which has experienced a slowdown in industrial construction over the past 2 years. In the overall Seattle market, industrial construction has declined from approximately 2.5 million square feet delivered in the late 1990s, to approximately 1 million square feet delivered in 2002 and the first half of 2003 (Cushman Wakefield 2003). Fluctuating industrial vacancy rates have been a primary cause of this decline, and new construction is expected to continue to be limited (Kidder Mathews 2003). Despite this trend, the close-in market for industrial activity (industrial buildings located close to the Seattle Central Business District) has been healthy because there is little new land left to develop there and virtually no new industrial construction activity has occurred, contributing to a general scarcity of industrial space in this area (Kidder Mathews 2003).

In projecting future development, the Seattle Strategic Planning Office study (Craig Kinzer and Company et al. 2001a) did indicate that "Demand will continue to dictate Downtown's mix of future uses...though the continued influx of apartments and condominium projects will lead to greater balance between office and residential development downtown, it is expected that office buildings will continue to be the primary type of development downtown." It also noted that "Downtown's natural (Elliott Bay to the west) and physical (Interstate 5 to the east) barriers limit expansion to the east and the west; so development over the next 20 years will occur north and, to a lesser extent, south of the Downtown core." This report further indicated that the Denny Triangle and South Lake Union neighborhoods will likely be the prime growth areas competing with the downtown Commercial Core for new tenants over the next 20 years.

Exhibit 4-5 provides partial data on downtown development in the project planning areas during the past decade.

Exhibit 4-5. Development Activity in the AWV Project Area, 1990 to 2000

Neighborhood Area	Residential Units	Non-Residential Area (square feet)
Pioneer Square	300	613,987
Commercial Core	1,502	979,106
Belltown/Denny Triangle	5,016	1,478,969
Uptown	416	223,951
South Lake Union	506	104,300
Total	**7,740**	**3,400,313**

Source: City of Seattle (2001b).

In addition to the development activity noted in the table above, Exhibit 4-6 identifies a partial list of proposed projects to be completed between 2002 and 2004 in the downtown area. While not all of these projects will occur within the immediate project study area, they are indicative of recent and ongoing development activity downtown.

Exhibit 4-6. Proposed Projects in Seattle Central Business District, 2002 to 2004

Project	Planning Area	Completion Date	Estimated Total Square Footage
Colman Tower	Commercial Core	December 2002	160,000
Pine Center	Commercial Core	March 2003	360,000
Fifth and Yesler Building	Commercial Core	July 2003	267,000
2121 Sixth	Belltown	January 2002	180,000
Fifth and Bell Building	Belltown	June 2002	198,660
Third and Battery	Belltown	September 2002	48,400
2000 Third Avenue	Belltown	May 2003	265,000
Clise-Frederick Cadillac Site	Denny Triangle	January 2003	600,000
Stewart Place	Denny Triangle	July 2003	650,000
Denny Triangle Mixed Use Building	Denny Triangle	2003	210,000
Clise-King Theater Site	Denny Triangle	January 2004	800,000
Greyhound Bus Site	Denny Triangle	2004	700,900
1925 Ninth Avenue Mixed Use	Denny Triangle	2004	450,000
Eighth and Olive	Denny Triangle	March 2003	292,000
Fifth and Jackson	Pioneer Square	April 2002	140,000
Martin Smith/Diamond Mixed Use	Pioneer Square	June 2002	155,000
Dearborn Corporate Campus	Pioneer Square	June 2002	495,000
Stadium Place	Pioneer Square	July 2002	149,757
83 King Street Phase II	Pioneer Square	October 2002	173,757
Gateway Square	Pioneer Square	January 2003	300,000
801 First Avenue South (WOSCA)	Pioneer Square	March 2003	1,020,000
		Total	**7,615,474**

Source: Craig Kinzer and Company et al. (2001b).

4.7 Zoning

Zoning along the project route varies among a number of urban zones, including industrial, commercial, retail, and residential zones. A zoning map is provided in Exhibit 4-7. Generally, these zones allow a variety of potential uses at different densities throughout the project area. The code specifies

allowable uses, standards for parking and building size, shape, and location within each zone. Development along the corridor is consistent with height and density regulations in these zoning classifications and includes high-rise office and residential structures as well as lower commercial and retail structures.

The following zones, as described in the Seattle Land Use Code (Title 23 of the Seattle Municipal Code), are located along the project corridor:

IG1 – General Industrial 1: Protects marine and rail-related industrial areas from an inappropriate level of unrelated retail and commercial uses by limiting these uses to a density or size limit lower than that allowed for industrial uses.

IG2 – General Industrial 2: Allows for a broad range of uses where the industrial function of an area is less established than in IG1 zones, and where additional commercial activity could improve employment opportunities and the physical condition of the area without conflicting with industrial activity.

IC – Industrial Commercial: This zone is intended to promote development of businesses that incorporate a mix of industrial and commercial activities, such as light manufacturing and research and development facilities, while also allowing a wide range of other employment activities.

PSM – Pioneer Square Mixed: Provides for less intensive uses than surrounding zoning in keeping with the historic designation of the Pioneer Square District.

DH1 – Downtown Harborfront 1: Applies Urban Harborfront Shoreline Environment designation to waterfront lots and adjacent harborfront area within the boundaries of downtown.

DH2 – Downtown Harborfront 2: Provides for commercial activities in support of shoreline goals and related office, commercial, and residential uses, where the intended scale of development is moderate and an orientation toward the water exists, to provide a transition in scale and character between the waterfront and downtown.

PMM – Pike Market Mixed: Provides for less intensive uses than surrounding zoning in keeping with the Pike Market Historic District designation.

DMC – Downtown Mixed Commercial: Provides for commercial development characterized by lower-scale office, retail, and commercial uses related to activity in the office and retail cores, mixed with housing and associated residential services.

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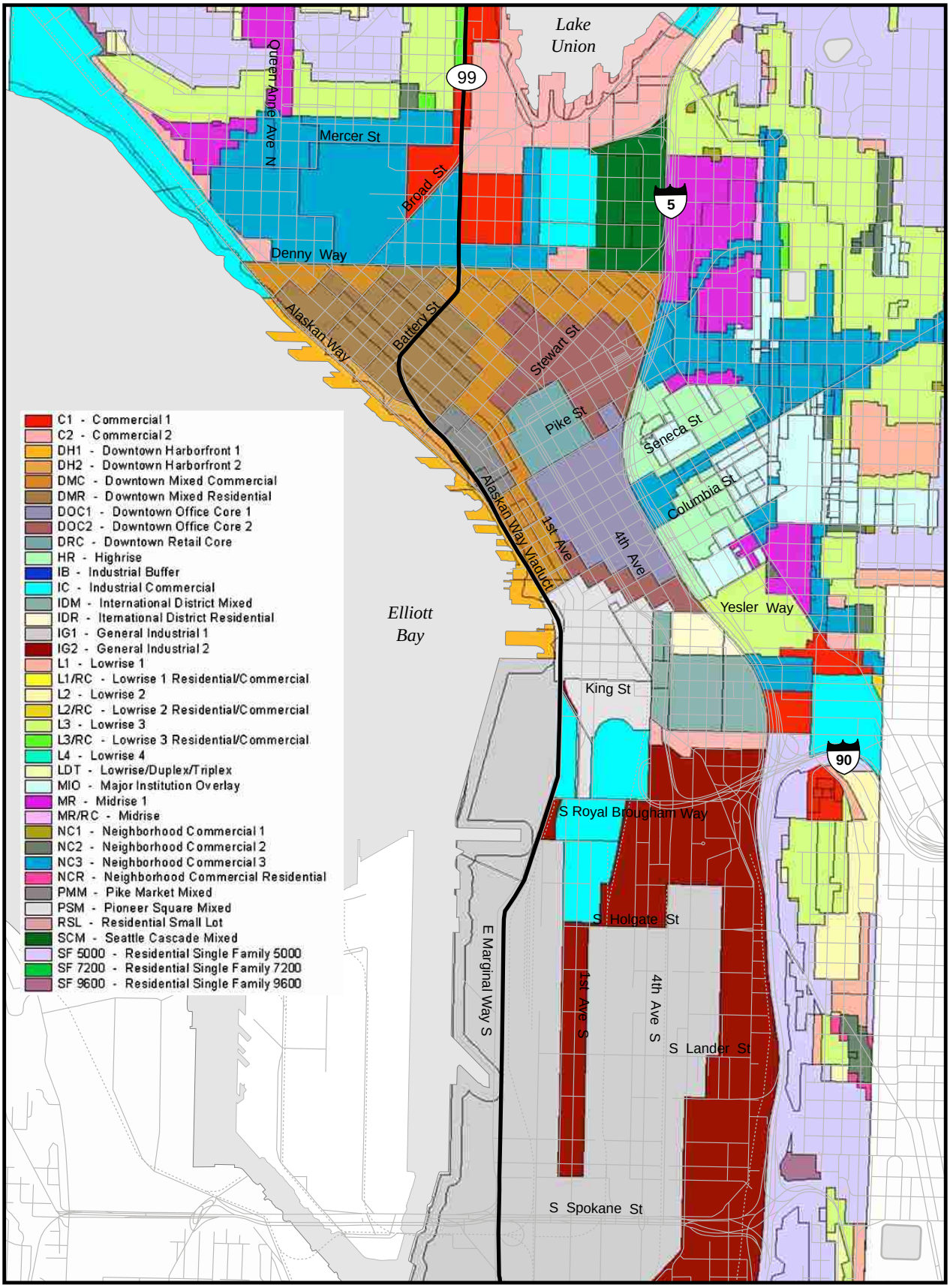

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Exhibit 4-7
Project Area Zoning Map

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DMR – Downtown Mixed Residential: Provides a mixed community where housing and associated services and amenities predominate, with the intent that office, retail, and other commercial uses are compatibly integrated with the predominant residential characters at low to moderate densities.

NC3 – Neighborhood Commercial 3: Intended to create a pedestrian-oriented shopping district to serve both the surrounding neighborhood and larger community or citywide clientele with a range of retail businesses, as well as office and business support services.

C1 – Commercial 1: Provides for auto-oriented, primarily retail-service commercial uses, serving surrounding neighborhoods and the larger community clientele with a wide range of commercial services, including retail, offices, business support services, and residential uses.

C2 – Commercial 2: Provides for an auto-oriented, primarily non-retail commercial area, serving a citywide function with a wide range of commercial services and employment opportunities in small to large businesses, including offices, business support services, light manufacturing, and warehouse uses; allows residential only as a conditional use.

L3RC – Low Rise 3 Residential/Commercial: An area that provides moderate-scale multifamily housing opportunities and where limited commercial activity will reinforce or improve the function of adjacent commercial areas and/or accessory parking will help relieve spillover parking in residential areas.

In addition to these zones, the City also has special districts, environmentally critical areas, and shoreline designations that apply to the project area, as identified below.

4.7.1 Special Districts

The project area also includes the Pioneer Square and Pike Place Market Historic Districts, where specific development policies apply. Within the South, the Stadium Transition Area Overlay District is intended to promote uses that are compatible with the two major sports stadiums. This district supports pedestrian-friendly uses, including connections to the downtown core, and it seeks to reduce potential conflicts with nearby industrial and commercial uses.

4.7.2 Environmentally Critical Areas

The City designates environmentally critical areas where existing conditions warrant specification of potential hazards or warrant protection of critical areas. The shoreline area along the harborfront has been identified as a

potential seismic liquefaction zone. This designation refers to the potential instability of soils during an earthquake event, resulting from the fact that much of the shoreline is underlain by old fill material. Critical areas maps also identify several steep slope areas scattered near the waterfront and near the proposed project route. Steep slope areas may be subject to slide conditions if overburdened by extensive development.

4.7.3 Shoreline Designations

The City's Shoreline Master Program defines shoreline environments for all shoreline areas. Shoreline environments form zones where additional development standards must be met in addition to zoning requirements in the Seattle Land Use Code. These additional requirements establish the types of land uses permitted within the shoreline areas. The following shoreline environments are designated along Elliott Bay in or near the project area:

Urban Industrial (UI): The purpose of the UI shoreline environment is to provide for efficient use of industrial shorelines by major cargo facilities and other water-dependent and water-related industrial uses. Views shall be secondary to industrial development and public access shall be provided mainly on public lands or in conformance with an area-wide Public Access Plan.

Urban General (UG): The purpose of the UG shoreline environment is to provide for economic use of commercial and manufacturing areas that are not suited for full use by water-dependent businesses. Public access or viewing areas shall be provided by non-water-dependent uses where feasible.

Conservancy Management (CM): The purpose of the CM shoreline environment is to conserve and manage areas for public purposes, recreational activities, and fish migration routes. While the natural environment need not be maintained in a pure state, developments shall be designed to minimize adverse impacts to natural beaches, migratory fish routes, and the surrounding community.

Urban Harborfront (UH): The purpose of the UH shoreline environment is to encourage economically viable water-dependent uses to meet the needs of waterborne commerce, facilitate the revitalization of downtown Seattle's waterfront, provide opportunities for public access and recreational enjoyment of the shoreline, preserve and enhance elements of historic and cultural significance, and preserve views of Elliott Bay and the land forms beyond.

Shoreline environments are shown on Exhibits 4-2, 4-3, and 4-4.

4.8 Plans and Policies

Several state and local plans and policies may apply to the proposed project at a general level. These plans and policies are identified below.

4.8.1 State Regulations

Growth Management Act

Adopted in 1990, the Washington State Growth Management Act (GMA) (RCW 36.70A) requires state and local governments to manage statewide growth by identifying urban growth areas and preparing comprehensive plans, capital improvement programs, and development regulations. The GMA also specifies that transportation projects be identified and constructed concurrent with future development projects.

Aquatic Lands Act

The Washington State Aquatic Lands Act of 1984 provides for the protection and management of state-owned aquatic lands. These aquatic lands include tidelands, shorelands of navigable rivers and lakes, beds of marine and fresh waters, lands in harbor areas and waterways, and some filled aquatic lands. This law indicates that these harbor areas are to be reserved "for landings, wharves, streets, and other conveniences of navigation and commerce." Public benefits to be considered in determining the use of aquatic lands include economic development, environmental protection, public use, and renewable resources.

Coastal Zone Management Program

Under requirements of the Coastal Zone Management Act of 1972, activities of federal agencies that affect coastal zone land uses, water uses, or natural resources must be consistent with the state's Coastal Zone Management Program. The Washington State Coastal Zone Management (CZM) Program includes the Shoreline Management Act, State Environmental Policy Act, Water Pollution Control Act, Clean Air Act, Ocean Resources Management Act, and Energy Facility Site Evaluation Council Act. King County is one of 15 counties in the state's coastal zone. The Washington State Department of Ecology reviews projects under this act and ensures that a project complies with state environmental requirements and permits through the laws in the CZM Program noted above.

4.8.2 Local Plans and Policies

Puget Sound Regional Council VISION 2020 and *Destination 2030*

VISION 2020 presents the central Puget Sound region's growth management, economic, and transportation strategy. Within this overall plan, *Destination 2030* represents the Metropolitan Transportation Plan for the region. The 1995 update to *Vision 2020* contains policies and guidelines for implementation of local comprehensive plans and development regulations within central Puget Sound, including King, Kitsap, Pierce, and Snohomish Counties. The plan identifies long-range growth and transportation strategies to fulfill the vision of economically diverse and environmentally healthy communities. By integrating land use and transportation planning, the plan provides a framework for allowing regional growth while maintaining open space, resource lands, and an efficient transportation system with travel mode options.

Under *Destination 2030*, policies are provided that are intended to improve regional mobility and access. *Destination 2030* is intended to identify and address the region's long-range transportation needs arising from regional growth. There are five major objectives defined by *Destination 2030*:

- Support maintenance and preservation of existing transportation infrastructure and services as a high priority.
- Provide stronger links between the transportation system and land use development to encourage growth within defined urban growth areas (UGAs) with balanced investments in multimodal transportation improvements.
- Identify and prioritize projects, programs, and policies to improve all modes of transportation and keep up with growth.
- Improve the region's financial capacity to fund needed improvements.
- Tailor recommendations at the sub-regional and corridor levels, in recognition of the region's social, physical, and cultural diversity.

Destination 2030 identifies regionally important components of the area's Metropolitan Transportation System and includes a complete list of projects and transportation system improvements.

King County Comprehensive Plan and Countywide Planning Policies

The King County Comprehensive Plan (1995) establishes a growth management strategy for King County over a 20-year period, in compliance with the planning goals of the state GMA. The policies address broad areas such as urban and rural land use, economic development, housing, transportation, the natural environment, and open space. The Plan establishes boundaries for the UGA that direct growth and development away from rural

areas and areas where services are not available, thereby containing urban sprawl and protecting open space while making the most efficient use of transportation and utilities.

The Countywide Planning Policies provide guidance for coordination between cities and the County in comprehensive planning efforts. These policies are intended to assist local jurisdictions in ensuring that each jurisdiction's own comprehensive plan is consistent with the King County Comprehensive Plan, as required by the GMA. Goals and objectives of the Seattle Comprehensive Plan have been coordinated with King County's Plan to ensure consistency under the GMA.

Seattle Municipal Code

The Seattle Land Use Code (Seattle Municipal Code, Title 23) provides zoning and development regulations for the City. These regulations set forth procedures for the use of land within the City. In addition to general use or activity requirements, these provisions include specified height and size restrictions, as well as setback, parking, landscaping, and view requirements. The Land Use Code also includes special overlay districts that identify other development requirements in addition to those noted for individual zones.

Other important sections of the Seattle Municipal Code include the following:

Shoreline Master Program (Chapter 23.60) to provide for the protection of shoreline ecosystems; encourage water-dependent uses; allow maximum public enjoyment of City shorelines; and preserve, enhance, and increase views of the water and access to the water.

State Environmental Policy Act (Chapter 25.05) to ensure compliance with state environmental regulations and procedures.

Environmentally Critical Areas Ordinance (Chapter 25.09) to prevent projects from having adverse impacts on sensitive environmental areas.

Stormwater, Grading, and Drainage Control Code (Chapter 22.80) to manage the quality and quantity of stormwater to protect property, the environment, public interests, and surface and receiving waters.

Design Review (Chapter 23.41) to ensure that new development enhances the character of the City and fits well into existing neighborhoods, as well as to provide flexibility in meeting development standards while promoting communication between the City and developers throughout the construction process.

Design Review Guidelines for Downtown

These guidelines, adopted in 1999, provide specific direction for downtown projects in meeting the City's land use regulations and policies. They provide a framework for addressing the intent of the downtown plan and land use code. As such, design review guidelines provide a context for considering the characteristics of downtown development, proposed development's relation to its surroundings, and potential solutions for integrating projects within the downtown environment.

Seattle 2003–2008 Capital Improvement Program

The Capital Improvement Program is used to present funding for rehabilitation, restoration, improvements, and additions to the City's capital facilities. The program presents funding for improvements such as libraries, street repairs, parks and recreation facilities, neighborhood projects, community centers, and utilities. The Capital Improvement Program is prepared by the Seattle Department of Finance to cover a 6-year planning period and is part of the annual City budget efforts. The actual appropriation of funds identified in the Capital Improvement Program occurs through the budget adoption process. The Alaskan Way Viaduct and Seawall Replacement Project is included in the Capital Improvement Program as a component of the Seattle Department of Transportation's capital programs.

Seattle Parks and Recreation Plan 2000

This plan updates the City's 1993 parks comprehensive plan and provides policy direction for the park and recreation system. It also reflects guidance provided by the City's Comprehensive Plan and is consistent with that document. The overall goal of the Plan is to create a neighborhood-based system of parks, facilities, and programs that reflect the City's setting. A 6-year action plan is presented as a strategy for achieving long-term goals for parks and recreation facilities.

Seattle Comprehensive Plan

The Seattle Comprehensive Plan provides goals and policies to guide growth and development in the city. The Comprehensive Plan is a 20-year policy plan and, consistent with GMA requirements, includes land use, transportation, housing, capital facilities, utilities, economic development, neighborhood planning, and environmental elements.

Also within the plan are framework policies that present Seattle's core values, which provide direction and priorities for the plan. Four basic core values are defined: community, environmental stewardship, economic opportunity and security, and social equity. The plan presents an urban village strategy that is intended to achieve goals that are shaped by the core values. The urban

village strategy includes land use goals combined with transportation and housing goals that are intended to provide for affordable housing and facility improvements that serve higher-density neighborhoods within the city. Under the Comprehensive Plan, neighborhoods have prepared separate planning documents that provide specific policies related to individual neighborhood areas. The neighborhood plans described below are relevant to the AWV project study area.

The Comprehensive Plan identifies three broad designations for future land uses adjacent to the proposed project corridor:

- Downtown Areas are intended to provide uses that support a broad mix of activities at the highest intensity of development.
- Industrial Areas are intended to support growth in the industrial and manufacturing employment base.
- Commercial/Mixed Use Areas are intended to support a diversity of uses that will provide services needed by the city's residents and businesses.

Seattle Neighborhood Plans

Plans were prepared for a number of the local neighborhood areas within the City. Goals and policies established in the neighborhood plans were reviewed and key policies within each plan were adopted into the overall Seattle Comprehensive Plan. Therefore, while the neighborhood plans in their entirety were not adopted by the City, goals and policies within these plans provide community direction intended to guide future activities within individual neighborhoods.

Belltown Neighborhood Plan (1998)

Belltown is within the Denny Regrade Urban Center Village, and this plan includes elements for housing, commercial land uses, transportation, the pedestrian environment, public safety, and community enrichment. The plan outlines key strategies for achieving plan goals. These strategies are to provide for the Green Streets and open space strategy within the neighborhood, to sustain the overall character of Belltown, and to sustain adequate parking in the neighborhood. Recommendations are made for each strategy, followed by individual goals and policies for each of the elements identified above.

Commercial Core Neighborhood Plan (1999)

This plan contains goals and policies for the Commercial Core area, the City's largest and most developed downtown neighborhood. Within the downtown Commercial Core are Seattle's retail core, the financial center/office core, City

and County government centers, the central waterfront, and the Pike Place Market Historic District. The Commercial Core Plan presents the area's goals and policies for implementing the overall Seattle Comprehensive Plan goal to concentrate future growth in urban centers throughout the city. Two primary goals are identified: first, to create a major center for employment, tourism and conventions, shopping, and residential neighborhood resulting in a regional hub of cultural and entertainment activities; and secondly, to promote a unique neighborhood identity for the Commercial Core.

Denny Triangle Neighborhood Plan (1998)

This plan provides goals and policies intended to create a separate identity and future for the Denny Triangle area, distinct from downtown or the larger Denny Regrade areas. It presents key integrated activities for the area and also identifies goals and polices for housing, land use, urban form, and transportation.

The Downtown Plan (1995) and Downtown Urban Center Neighborhood Plan (1999)

These plans provide goals and policies for the primary downtown urban area. The 1995 Downtown Plan provides framework policies for the general downtown area. Policies focus on a wide variety of economic, transportation, growth, and planning elements. The 1999 neighborhood plan provides an update of the 1985 Downtown Land Use and Transportation Plan. It includes goals and policies for five urban center villages within the Downtown Urban Center. As such, it provides a compilation of the more specific goals and policies found within the downtown urban village neighborhood plans.

Both downtown plans are discussed in the context of policies for land use, housing, transportation, human services, economic development, and capital facilities that may influence the downtown urban center.

Pioneer Square Neighborhood Plan (1998)

This plan provides an update to the 1991 plan for the Pioneer Square Historic District. The 1991 plan provided proposals for capital improvements, identified sites where development should be encouraged, and recommended design guidelines for public spaces. The updated 1998 plan provides recommendations to achieve goals and policies of the former plan and includes goals for improving public spaces; increasing the range of housing stock; strengthening the economic base; and improving parking, transportation, and utility infrastructure.

Greater Duwamish Manufacturing and Industrial Center Plan (1999)

This plan provides goals and policies that are intended to ensure the vitality and expansion of manufacturing and industrial activity in the Greater

Duwamish Manufacturing and Industrial (M&I) Center. The primary objectives presented by the plan for this area are:

- Restrict incompatible or competing land uses within the M&I Center.
- Encourage manufacturing and industrial job retention and growth.
- Establish a growth target of 10,680 new family-wage industrial jobs.
- Retain and improve access to, and transportation within, the M&I Center.
- Retain existing businesses and encourage new manufacturing and industrial development within the M&I Center.

The plan seeks to control conditions that have caused the viability of the Duwamish M&I Center to erode during recent years. Pressure to redevelop land within the plan area for nonindustrial uses is presented as the greatest threat to the long-term manufacturing and industrial uses that have been located here. Retention of the manufacturing and industrial base as an important economic asset is the primary overall goal of the plan.

Queen Anne Plan (1998)

The Queen Anne Plan identifies two primary planning areas: upper and lower Queen Anne, including the Seattle Center, and the Uptown Queen Anne Urban Center areas. Goals and policies are provided for the overall planning area, and specific plans are formulated to integrate recommendations within the plan. The plan includes elements for community character, human services and housing, land use, parks and open space, transportation, and Queen Anne business districts.

South Lake Union Neighborhood Plan (1998)

This plan focuses on three components for improving the South Lake Union area: neighborhood character, parks and open space, and transportation. Key recommendations are made for each of these elements and are intended to establish long-range goals for future development in the area. The plan emphasizes the desire for mixed-use opportunities to provide work and recreation in the area, while maintaining and expanding commercial opportunities. Housing, environmental, transportation, and open space concerns are also addressed.

Harborfront Public Improvement Plan (1987)

The 1987 Harborfront Plan was intended to help achieve the goals in the Land Use and Transportation Plan for Downtown Seattle. The vision for the waterfront presented in this plan was to reunite the waterfront with the downtown, strengthen its maritime character, and enhance public access. The

plan also discusses the physical setting of the harborfront and identifies activity zones within the area.

Central Waterfront Planning

Efforts are also underway on a new planning process for the downtown waterfront area extending approximately from Myrtle Edwards Park in the north to S. Atlantic Street in the south, and First Avenue in the east to the Elliott Bay shoreline in the west. The city is currently studying this central waterfront area and intends to prepare a plan that defines a community vision for this area, including an implementation program for the plan. One of the goals of this planning effort is to integrate potential replacement of the Alaskan Way Viaduct with future planning opportunities for the waterfront area. Public meetings are being held to involve the community in plans for the waterfront and in defining goals that are expected to address such issues as economic viability for waterfront businesses, tourism, and connections between the waterfront and the downtown core. It is expected that a decision regarding the AWV project will be made prior to completion of the waterfront planning process. Future waterfront goals will then be coordinated with the approved AWV design.

4.9 Planned Development

New development may occur within the project area as the project is being constructed. Presently, plans for the expansion of the Seattle Aquarium, construction of the new Olympic Sculpture Park, and potential changes to Terminal 46 are anticipated along the waterfront. An expansion of the Seattle Monorail is also being considered in the downtown area. Construction of the Central Link Light Rail downtown, improvements to SR 519, and reconstruction and expansion of Colman Dock, are other future projects that are expected to occur in the project area. Additionally, private residential and commercial development projects near the proposed project route will be expected to occur during the construction period for any of the proposed AWV improvements. This development would include proposed projects in the Belltown/Queen Anne, Seattle Downtown, and South Lake Union planning areas.

Chapter 5 OPERATIONAL IMPACTS AND BENEFITS

5.1 Consistency With Plans and Policies

5.1.1 State and Regional Plans

The Growth Management Act provides overview guidelines for comprehensive planning in the state. As indicated above, the GMA requires coordination between city and county planning efforts. The GMA specifies important goals for designating areas where urban growth will be encouraged and where new facilities and infrastructure will be directed.

The Puget Sound Regional Council VISION 2020 and *Destination 2030* plans reflect an integrated long-range growth management, economic, and transportation strategy for the central Puget Sound region.

The proposed project represents one component of the city and regional transportation network and therefore will support growth management goals of these policies. The project corridor lies within an urban area that is consistent with the GMA requirement to direct infrastructure improvements to such areas. Each of the Build Alternatives is designed to accommodate several existing and planned regional and local transit facilities, including light rail, local and community bus systems, the waterfront streetcar, the water taxi to West Seattle, the Monorail, and Washington State Ferry Service. Along with consideration of future high-occupancy vehicle (HOV) and pedestrian/bicycle facilities, these alternatives will support regional multimodal goals and policies. Because these improvements will serve one of the more urbanized areas of the city, the Build Alternatives also will comply with the need to ensure continuance of urban-level facilities in these areas. In so doing, they will support long-range goals to direct high-density growth to already urbanized locations.

5.1.2 City and County Plans

The Seattle Comprehensive Plan directs most growth and development to areas identified as Urban Villages where infrastructure and services are intended to serve high-density land uses. The City's plan seeks to provide a range of transportation alternatives that will include transit, bicycle, and pedestrian facilities. The plan also encourages Urban Villages to be served by high-capacity transit. The City's plan is also consistent with funding identified for Alaskan Way improvements in the City's Capital Improvement Program.

Within the downtown area in particular, the City has sought to reduce the number of personal cars and trucks being used for daily commutes. Some of these vehicles currently use the viaduct, and the Build Alternatives will continue this use. At the same time, many trips along the viaduct bypass downtown, and the facility is also used by public transit, including vanpool and carpool services. The proposed Build Alternatives will provide one element of the diverse transportation network the City Plan envisions, and is intended to accommodate additional parts of the overall multimodal transportation system the City desires. Because the proposed Surface Alternative will reduce the existing capacity of the roadway throughout much of its central route, it may not meet these goals as effectively as the other Build Alternatives. The Comprehensive Plan goals are based on the expected continuance of the viaduct's capacity, although the plan does indicate the negative aspects on noise, visual quality, and pedestrian movement that have resulted from the current structure.

At the neighborhood level, the proposed project alternatives will offer consistency with individual plans, but may contribute to cumulative changes that could influence future land uses in some locations. It should be noted that not all the neighborhood plans in their entirety have been adopted by the City. In many instances, the City adopted part of the neighborhood goals and policies within its Comprehensive Plan, but not all of them. Regardless of whether they are part of formal City policy, each neighborhood plan provides a clear preference or intent for future development and may help guide land use actions there.

It should also be noted that the viaduct has an influence on areas beyond the immediate neighborhoods through which it passes. Many of the daily commuters now using this route live in neighborhoods north and south of downtown such as Ballard, Fremont, Greenwood, West Seattle, White Center, and Georgetown. For these commuters, the viaduct offers a convenient route either to downtown, or around the city, without using the interstate freeway (I-5). An improved viaduct may have an influence on growth in these areas where the desire to live there is in part facilitated by the ease of one's commute and the local connection the viaduct now provides.

While the route is generally consistent with goals to ensure that neighborhoods are well served by transportation connections, in places the proposed Build Alternatives will disrupt existing uses. Where potential displacements will involve residential units or businesses, the Build Alternatives will not support the desire to encourage residential and economic development and/or general goals to meet employment and housing growth targets in the neighborhoods.

Each of the Build Alternatives may, however, provide opportunities for new development along the project route, either as the result of converting staging areas to other uses or through creation of new potential land areas where development may occur. The new design could result in new areas for potential residential and/or business uses at various locations along the route, although these opportunities may be limited. New development will be more consistent with neighborhood plan goals promoting new uses in the future. Additionally, replacement of the Seawall will be supportive of both existing and future land uses along the waterfront because the Seawall provides protection and stability for the uses located there.

One of the most visible portions of the existing viaduct is located along the western boundary of the downtown Commercial Core neighborhood. This is the heart of the downtown waterfront area. Both the Downtown Plan (1995) and the Downtown Urban Center Neighborhood Plan (1999) indicate the desire to de-emphasize the use of Alaskan Way by through traffic in this area. The Build Alternatives will not generally support this goal if they result in renewed interest in using this route for trips that bypass downtown. These plans also call for giving the highest priority to downtown transportation projects that serve transit, HOV, bicycle, and pedestrian needs. The proposed Build Alternatives will not generally be consistent with this goal, except where they provide the means for accommodating current and future multimodal transportation facilities.

The downtown plans and local neighborhood plans also contain a number of goals and policies intended to promote economic development. There are goals to improve waterfront pedestrian circulation and to enhance connections between downtown and the waterfront. Depending on the alternative chosen, the Build Alternatives will address these goals in varying ways. Each alternative will provide continued access to the waterfront, although replacement alternatives will likely result in greater opportunities for new connections than rebuilding the existing structure or constructing a new aerial structure. Reduced capacity under the Surface Alternative may also impede the ease of access to the waterfront and downtown as compared to other Build Alternatives.

Replacing the viaduct will result in the loss of existing parking opportunities beneath the structure. Some neighborhood plans have noted the need to increase parking opportunities, thus the Build Alternatives will not support these goals. If the viaduct improvements attract new visitors downtown, the new structure may result in increasing demand for downtown parking, which will also be inconsistent with plan goals to provide adequate parking for local land uses. It should be noted that these goals may be related primarily to the

need for short-term parking. While the City is generally supportive of the need to provide adequate short-term parking downtown, City policies are not intended to meet all demand for downtown parking. More information on parking impacts is provided in Appendix C, Transportation Discipline Report.

Because much of the potential land acquisition that will occur under each Build Alternative will take place in the South, industrial zones will be affected to a larger extent than other zones along the project route. In particular, portions of land zoned for industrial and commercial uses within the Greater Duwamish planning area will be converted to roadway usage. Although such use is expected to continue access to industrial and commercial properties in this area, the primary theme of the Greater Duwamish Manufacturing and Industrial Center Plan calls for preserving industrial property. The proposed Build Alternatives will not generally support this goal.

The overall goal of the County's Comprehensive Plan and Countywide Planning Policies is to provide for consistency and coordination of transportation and land use plans by local planning and transportation agencies. The intent is to ensure that the County is served by a balanced, multimodal transportation system that functions effectively and efficiently under the guidance of these policies. The proposed project Build Alternatives will serve transportation needs of the City and the larger community and provide a key connection to Seattle and areas north and south of the city. These provisions will support the City Comprehensive Plan's efforts to be consistent with GMA and County growth management measures.

To the extent the proposed project will facilitate traffic flow along the route, it will also help meet level of service standards intended to support transportation mobility goals. As indicated earlier, because the capacity along a large portion of the route will be reduced under the Surface Alternative, it will not be as supportive of these goals as will other Build Alternatives. Capacity, trip distribution, level of service, and other traffic-related impacts are discussed in detail in Appendix C, Transportation Discipline Report.

Of particular interest to the City is the viaduct's relationship to the waterfront area. The City's Comprehensive Plan includes goals and policies for shoreline environments consistent with the Shoreline Master Program. Following are specific goals and policies from the Shorelines section of the Comprehensive Plan that are relevant to the proposed viaduct and seawall replacement.

Shoreline Goals and Policies

Shoreline Use

LG88 Plan for and encourage the integration and location of compatible uses within segments of the shoreline.

LG89 Locate all non-water-dependent uses upland to optimize shoreline use and access.

LG91 Protect those areas of the shoreline that are geologically dangerous or fragile or biologically fragile.

Comments: The proposed project will generally meet goals for compatibility of uses by providing improved access to existing uses and the waterfront. To the extent that the Seawall serves to protect water-related and water-dependent uses, the project Build Alternatives will support continuance of these uses in their current waterfront locations. The project right-of way is not located directly on the waterfront but will be in an upland location in relation to the shoreline and will provide access to existing shoreline uses. Construction activities will include best management practices and site-specific mitigation measures that are intended to protect fragile shoreline areas that could be affected by construction.

Shoreline Access

LG92 Provide for the optimum amount of public access—both physical and visual—to the shorelines of Seattle.

LG93 Preserve and enhance views of the shoreline and water from upland areas where appropriate.

L320 Increase opportunities for substantial numbers of people to enjoy the shorelines by permitting non-water-dependent uses providing public access to locate in waterfront areas suited for water-dependent uses and by requiring public access on public property.

L321 Promote public enjoyment of the shorelines through public access standards by requiring improvements that are safe, well-designed, and offer adequate access to the water.

L322 Except for single-family residences, maintain standards and criteria for public access and private use of publicly owned or controlled shorelines to achieve the following:

1. Provide linkages between shoreline public facilities via trails, paths, etc. to connect with terminal boating and other recreational facilities.

4. Require public agencies such as the City, Port of Seattle, and King County Metro to provide public access opportunities at new shoreline facilities and encourage these agencies to provide similar opportunities at existing facilities.
5. Provide standards and criteria for view and visual access from upland and shoreline areas.

Comments: Each of the Build Alternatives will maintain access to the shoreline from the viaduct, although such access is not a primary function of the roadway. Connections with the upland areas and downtown are expected to continue under the Build Alternatives and, for some alternatives, improve access to the shoreline. Because the Surface, Tunnel, and Bypass Tunnel Alternatives will remove the existing structure, they will offer greater opportunities for enhancement of shoreline views than the Rebuild or Aerial Alternatives.

The Tunnel and/or Bypass Tunnel Alternatives may result in improving connections to the waterfront by removing the barrier that the existing structure represents. This change may make the waterfront more appealing to larger numbers of persons, which will better support the goals of increasing opportunities to enjoy this area of the city. Although the Surface Alternative will also remove the existing structure, it will include a new surface street that may act to divide the waterfront and downtown areas. The additional separation created by the Surface Alternative will likely cause it to have less impact on improving connections than is potentially expected for the Tunnel and Bypass Tunnel Alternatives.

Each of the Build Alternatives will provide links to the waterfront, including potential links to existing trails and bicycle routes. These connections will continue to provide opportunities to reach the waterfront from the viaduct roadway.

Transportation

LG94 Develop a transportation network that supports and enhances use of and access to the shorelines.

LG95 Relocate transportation facilities that are functionally or aesthetically disruptive to the shoreline.

L324 Encourage the transport of materials and cargo via modes having the least environmental impact.

L326 Streets, highways, freeways, and railroads should be located away from the shoreline in order to maximize the area of waterfront lots and minimize the area of upland lots. Streets, highways, freeways, and

railroads not needed for access to shoreline lots shall be discouraged in the Shoreline District.

L328 Public access shall be the preferred use for recaptured rights-of-way. Public rights-of-way may be used or developed for uses other than public access, provided that such uses are determined by the City to be in the public interest, and that public access of substantial quality and at least comparable to the right-of-way is provided.

Comments: As indicated above, the viaduct serves as a route to, or around, the downtown area from locations to the north and south, rather than providing direct access to the waterfront. While shoreline access is not a primary function, the roadway does provide access to the waterfront and acts as one means of reaching the downtown ferry routes. Each of the Build Alternatives will preserve this function; however, the Tunnel and Bypass Tunnel Alternatives may offer enhanced connections to downtown by removing the existing aboveground structure. This may also be true for the Surface Alternative, although to a lesser extent, as indicated in the comments on Shoreline Access goals and policies above.

The two tunnel alternatives will provide the best connections by placing the roadway largely below grade. The Surface Alternative will replace the large concrete structure with a new surface roadway that will likely enhance views of the waterfront from downtown and may offer some improvement to direct access as well. These alternatives will better meet the goal of relocating functional or aesthetically disruptive uses. It is likely that removal of the viaduct will also provide some right-of-way areas that could be used to enhance the ability to reach existing public access routes to the shoreline. Although these areas may not provide direct access to the shoreline, they could be used to facilitate access to other paths to waterfront and shoreline uses.

Conservation

LG97 Ensure that all future uses will preserve and protect environmental systems, including wild and aquatic life.

L333 Require that all commercial, industrial, or other high activity uses provide means for treating natural or artificial urban runoff to acceptable standards. Developments with industrial and commercial uses that use or process substances potentially harmful to public health and/or aquatic life shall provide means to prevent, to the extent possible, point and non-point discharge of the harmful substances.

Comments: Construction of the Build Alternatives will follow best management practices and other site-specific mitigation measures to protect

shoreline areas. Appendix R, Fisheries, Wildlife, and Habitat Discipline Report and Appendix S, Water Resources Discipline Report discuss these measures in more detail.

Each of the Build Alternatives will include measures for treatment of stormwater runoff resulting from the proposed project. With treatment, the proposed roadway should not result in substantial discharges of harmful materials in Elliott Bay or nearby areas. Appendix S, Water Resources Discipline Report provides additional detail on proposed treatment measures associated with the proposed project.

Shoreline Economic Development

LG99 Encourage economic activity and development of water-dependent uses by supporting the retention and expansion of existing water-dependent businesses and planning for the creation of new developments in areas now dedicated to such uses.

LG100 Allow a multi-use concept of development, provided that the major use is water-dependent and development provides public access to the shoreline yet maintains the economic viability of the use.

Comments: Each of the project alternatives will support existing waterfront uses by providing continued access to downtown areas. The Tunnel and Bypass Tunnel Alternatives may better encourage expansion of waterfront uses by enhancing visual and pedestrian connections to the waterfront through removal of the existing aboveground structure. To a lesser extent, this may be true of the Surface Alternative, although the proposed roadway under this approach may be less effective in ensuring direct connections to the waterfront than the Tunnel and Bypass Tunnel Alternatives.

Recreation

L343 Allow for increased opportunity for the public to enjoy water-dependent recreation, including boating, fishing, swimming, diving, and enjoyment of views.

Comments: To the extent they enhance visual and pedestrian access to the waterfront, the Tunnel and Bypass Tunnel Alternatives may provide better opportunities for enjoyment of the waterfront by removing the existing aboveground structure. Views of the waterfront will also be improved by the Surface Alternative. The new surface roadway, however, may present continuance of the physical separation from downtown for pedestrians, although it may provide more opportunities for improved connections than the existing structure.

History, Culture, Restoration, and Enhancement

L350 Consider protection of individual sites or aspects of areas identified as being of historical significance through landmark designation.

Comments: The proposed project will follow appropriate local, state, and federal regulations regarding areas of historical significance under each of the Build Alternatives. Appendix L, Historic Resources Technical Memorandum and Appendix M, Archaeological Resources Technical Memorandum provide detailed information on impacts and mitigation measures for these resources.

Area Objectives for Seattle's Shoreline Environments

The Area Objectives are intended to indicate which of the shoreline areas goals and policies are to be met on each specific section of shoreline. Area objectives for Central Waterfront Shoreline Environments in the project area are described below.

Harborfront. The Harborfront shoreline area is all located within the central waterfront and extends from Bay Street on the north to S. Jackson Street. Specific objectives for this area are as follows:

- Encourage economically viable marine use to meet the needs of waterborne commerce.
- Facilitate the revitalization of downtown's waterfront.
- Provide opportunities for public access and recreational enjoyment of the shoreline.
- Preserve and enhance elements of historic and cultural significance.
- Preserve views of Elliott Bay and the landforms beyond.

The Duwamish. This area includes the Duwamish River from the south city limits to S. Massachusetts Street on the east and SW Bronson Street on the west, including Harbor Island and the East and West Duwamish Waterways. Specific objectives for this area are as follows:

- Preserve the statewide interest by encouraging industrial and port uses in this area where such uses are already concentrated while also protecting migratory fish routes.
- Protect Kellogg Island as an important natural resource for fish and wildlife habitat and the opportunity for the public to view those resources.
- Work with appropriate government agencies and shoreline users to reduce the input of pollutants, restore contaminated areas, and regulate disposal of dredge spoils.
- Increase public access and recreational opportunities through the Duwamish Public Access Plan.

Elliott Bay. Portions of the Elliott Bay shoreline environment are located within the central waterfront, including Terminal 46 to the south and the area between Bay Street and Denny Way extending to Interbay to the north. In this environment, the emphasis is on large water-dependent and water-related manufacturing and industrial facilities and major water-dependent recreational developments. Specific objectives for this area are as follows:

- Reserve waterfront lots for major port terminals, large water-dependent and water-related manufacturing and industrial facilities, and major water-dependent recreational developments.
- Choose shoreline environments that are appropriate for recreational and industrial uses based on water depth, amount of dry land, topography, and truck and rail access.
- Protect and enhance migratory fish routes and feeding areas.

Comments: The majority of the proposed project area is located within the Harborfront portion of the Central Waterfront Shoreline Environments. The Build Alternatives will generally meet the goals for the Harborfront area as discussed above. With respect to one of these goals, facilitation of revitalization of the waterfront, however, the Bypass Tunnel and Tunnel Alternatives may help achieve this goal better than the other Build Alternatives. Because these two alternatives will remove the existing structure, they may renew interest in the waterfront area more so than the other alternatives. Although the Surface Alternative does remove the structure, it will result in a new surface roadway between downtown and the waterfront, which may not facilitate new connections between the waterfront and the downtown core as well as the two alternatives that will move the roadway below grade.

Portions of the project area will also be adjacent to the Duwamish and Elliott Bay Central Waterfront Shoreline Environments. These areas are near the South, where many of the potential property acquisitions for the Build Alternatives will occur. The Build Alternatives will preserve connections to the industrial uses in these areas, which will help facilitate continuation of these uses. They will, however, result in a loss of the land currently zoned for industrial use that will be converted to roadway facilities. Appendix K, Relocations Technical Memorandum provides more information on potential parcel acquisitions. Thus, while the connections for the proposed roadway will support existing uses, the Build Alternatives may reduce the land area available for expansion of these uses. The Tunnel and Bypass Tunnel Alternatives will also potentially support increased public uses of the waterfront better than the other Build Alternatives. Where land losses occur as a result of project activities, the severity of these potential losses may be

reduced by potential opportunities for development of staging areas, or new land area that could result from the build alternatives. Depending on the location of these areas, and their underlying zoning, these areas may provide new commercial, industrial, or residential development opportunities.

5.2 No Build Alternative

5.2.1 Scenario 1 – Continued Operation of the Viaduct and Seawall With Continued Maintenance

Under continued operation of the current facility, existing land uses will not be affected until future replacement is considered, or until the viaduct or Seawall suffers additional damage, as discussed in the two scenarios below. Adjacent buildings are expected to remain in place until replacement plans are implemented in the future.

5.2.2 Scenario 2 – Sudden Unplanned Loss of the Viaduct and/or Seawall but Without Major Collapse or Injury

Under this scenario, it is assumed that use of the viaduct might be impaired or lost, in part, without collapse of the entire structure. If a portion of the viaduct were damaged, or partial closure were needed, adjacent land uses may experience impacts where businesses or residences require use of the viaduct for their access. Access to adjacent land uses could also be impeded if closure of the viaduct were to affect the use of nearby surface roads. It is expected that these impacts will be relatively short in duration until the damaged area or impaired use can be repaired or replaced and full utilization and access are restored.

Additionally, if the viaduct were to suffer damage that does not result in immediate collapse, but that might weaken the existing structure, adjacent land uses may be threatened by an increased risk of partial or complete collapse in their vicinity. Any collapse, whether partial or complete, could include the possibility of debris striking existing land uses in close proximity to the viaduct. This threat will also extend to the potential loss of use of streets adjacent to the viaduct if they were to require closures or detours as an additional safety precaution. Partial damage to the Seawall could result in damage to nearby land uses and roadways.

5.2.3 Scenario 3 – Catastrophic Failure and Collapse of Viaduct and/or Seawall

If the structure were to fail completely before replacement can occur, adjacent land uses could be affected. Aside from the potential impacts to individuals occupying nearby properties, the greatest danger from this scenario is from potential structural damage to businesses and/or residences if the collapse of

the viaduct were to strike nearby structures. Another impact on these land uses could be the potential loss of access to and from buildings if a sudden collapse were to close the facility or damage local surface roads.

Additional impacts on local land uses could occur as a result of failure of the existing seawall. In a catastrophic failure, it is possible that extensive structural damage could occur to nearby buildings. Portions of existing roadways could also collapse as a result of undermining by sudden water flows, and utility lines could be disrupted. Seawall failure may result in closures or detours on local roads which may affect access to and from surrounding properties.

5.3 Rebuild Alternative

Land in the following zones will be acquired for the new structure: IG1, IG2, IC, PSM, DMC, DH1, DH2, PMM, DMR/R, DMR/C, NC3, C1, and C2. Exhibit 5-1 identifies the amount of land that could be affected within these zones under each Build Alternative. This exhibit assumes that where parcel acquisitions will occur, each parcel will be acquired in full for the proposed project. Approximately 24.4 acres of land will be acquired under this alternative. As this exhibit shows, almost 24 acres (approximately 97 percent) of the total area of land to be converted to roadway use under the Rebuild Alternative will occur within the Industrial General (IG), Industrial/Commercial (IC), and Downtown Harborfront (DH) zones. Under all Build Alternatives, most of this conversion will take place in, or near, the Duwamish and Pioneer Square planning areas, in the South. These totals do not include parcels associated with Terminal 46. Potential impacts to Terminal 46 are discussed separately below.

Conversion of this land to roadway use will result in a reduction in the amount of industrial and commercial land in the project area. As indicated in the discussion of development trends above, development activity has slowed recently as a result of current economic conditions. With economic improvement, this activity is expected to increase in the future, and commercial development is expected to continue as the primary use downtown (Craig Kinzer and Company et al. 2001a).

The loss of land under this alternative, as with the other Build Alternatives, will reduce available land for future development along the project route. Primarily in the South, this may mean that costs of future commercial and industrial development may increase in response to a potential reduction in developable land supply. Demand, however, will also determine the potential impact on costs resulting from use of this property for the viaduct project. If an increase in costs for commercial and industrial property does

occur, some users, especially small to medium sized firms, may locate in other locations where land supply and costs are more favorable. Although this may affect the mix of uses in the South, it is not expected to greatly influence expected development trends within the overall project area.

Disruptions to existing land uses will occur where buildings or other structures are displaced. More detailed discussion of displacement issues is presented in Appendix K, Relocations Technical Memorandum. Under the rehabilitation alternative, the existing AWV structure will largely remain in its present location, and fewer disruptions to adjacent land uses will be expected to occur than those associated with the other Build Alternatives.

Exhibit 5-1. Affected Parcel Areas by Zoning Classification

	Build Alternatives				
Zoning Designation	Rebuild	Aerial	Tunnel	Surface	Bypass
Industrial General (IG1 and IG2)	5.7 acres	1.6 acres	5.7 acres	20.2 acres	5.7 acres
Industrial/Commercial (IC)	9.0 acres	9.8 acres	9.0 acres	8.8 acres	9.0 acres
Pike Market Mixed (PMM)	0.1 acre	0.1 acre	0.4 acre	0 acre	0.4 acre
Pioneer Square Mixed (PSM)	0 acre	0 acre	0.3 acre	0.3 acre	0.3 acre
Neighborhood Commercial (NC3)	0.5 acre	0.5 acre	0.5 acre	0.5 acre	0.5 acre
Downtown Harborfront (DH1 and DH2)	8.9 acres	8.9 acres	8.9 acres	8.9 acres	8.9 acres
Downtown Mixed Residential (DMR)	0.2 acre	1.1 acres	0.9 acre	0 acre	0.9 acre
Total	**24.4 acres**	**22.0 acres**	**25.7 acres**	**38.7 acres**	**25.7 acres**

Sources: Seattle/King County Assessor's Records (2003); Parsons Brinckerhoff (2003).

The Rebuild Alternative will not result in many opportunities for redevelopment along the project route because it will not relocate the existing structure. The new structure will continue to occupy existing right-of-way without creating new areas of open space in which future development could occur. A potential opportunity for redevelopment will occur at the various construction staging locations after the project is complete. Construction staging areas under each alternative are identified in Exhibit 5-2, below. The barrier effect created by a large aerial structure between the waterfront and downtown will remain as it is now. This barrier created by the viaduct has been considered a hindrance to connecting land uses in the downtown core to uses along the waterfront. Under this alternative, land use patterns are less likely to change greatly from existing conditions.

One existing use that will be affected throughout construction and beyond is the potential loss of parking under and around the viaduct. Under current project plans, existing parking areas beneath the viaduct will be closed and/or

removed during the initial construction stages in each specific area in which work is to occur. Both on-street parking spaces and off-street parking (garages and surface lots) may be affected. New on-street parking will be provided along the project route under each of the Build Alternatives; however, overall parking may decrease. The Rebuild Alternative will result in a long-term net loss of approximately 220 on-street and 50 off-street parking spaces in the project area. Since the current demand for much of the available downtown parking is high, this net loss is likely to result in greater competition for existing parking spaces downtown. Under each of the build alternatives, there is a possibility that some businesses could be made non-conforming with respect to Land Use Code parking requirements by the project's displacement of off-street/on-site parking. If, in further development of the project, this impact turns out to be the case, the lead agencies would assist affected business owners in identifying potential parking to be covenanted and other parking options to make up the required parking or, if necessary, identify the property as potentially displaced. If relocation becomes necessary, lead agencies would provide assistance to affected businesses under the Uniform Relocations Act provisions.

As noted above, potential land use conversion totals in these exhibits do not include changes associated with Terminal 46. Under each of the proposed Build Alternatives, Terminal 46 will be affected by construction and longer-term activities associated with the proposed project. A linear portion of the primary Terminal 46 parcel will be needed for the proposed roadway. Acquisition of this area is not expected to greatly affect the current use of Terminal 46.

Exhibit 5-2. Primary Potential Construction Staging/Redevelopment Areas

Location	Size	Current Zoning	Planning Area
1. WOSCA site	7.80 acres	IC-65	Duwamish
2. Pier 48	7.5 acres	DH1-45	Pioneer Square
3. Parking lot near Seattle Aquarium	0.5 acre	DH1-45, DH2-55	Downtown
4. Seattle Center parking lots	13.0 acres	C1-65	Uptown, South Lake Union
5. Pier 48/Terminal 46 ferry holding area	7.9 acres	DH1-45; IG1-U/85, PSM-100	Pioneer Square; Duwamish

Source: City of Seattle. Zoning Code and Comprehensive Plan. 2000, 2001.

Property acquisition at Terminal 46 is also discussed in Appendix K, Relocations Technical Memorandum.

5.3.1 South – S. Spokane Street to S. King Street

At-Grade With SR 519 Elevated Ramps

Although parcel acquisition will be the greatest in the South, potential changes in land use designations are not expected to result in substantial changes in the land uses located there. Access to and from AWV in the South will continue to be provided, as the Rebuild Alternative will largely follow the existing AWV route at-grade through the South. The proposed on-ramp at S. Royal Brougham Way will be very near the southwest corner of the LeDuc Packaging building on the west side of First Avenue S. These changes are not expected to alter uses of these properties.

5.3.2 Central – S. King Street to Battery Street Tunnel

Rebuild and Retrofit

In the Central area, this alternative will continue the existing structure; substantial land use changes are not expected. The Washington State Ferries terminal will continue in its present location, and the ferry holding area will be expanded to 1,000 cars. The proposed changes for the southbound on-ramp at Columbia Street could encroach on the existing parking garage on the west side of Western Avenue. Also, all Build Alternatives will require relocation of the existing fire station at Pier 53. These changes will not be expected to change land uses in this area.

5.3.3 North Waterfront – Pike Street to Myrtle Edwards Park

Rebuild activities in this area will be limited, and land use impacts will be similar to those identified in Section 5.3.2 above.

5.3.4 North – Battery Street Tunnel to Ward Street

No Improvements

No major changes to land uses will occur in the North as a result of this alternative.

5.3.5 Seawall – S. King Street to Myrtle Edwards Park

Rebuild

New Seawall construction will take place behind the existing Seawall and will not directly affect adjacent land uses. Temporary impacts to nearby land uses, resulting from noise and/or dust during construction, could occur and are addressed in Appendix F, Noise and Vibration Discipline Report and Appendix Q, Air Quality Discipline Report.

5.4 Aerial Alternative

This alternative will result in the need to acquire approximately 27.0 acres of land in several zones within the project area, as shown in Exhibit 5-1. Of this total, approximately 19.5 acres (72 percent) will occur within the Industrial General, Industrial/Commercial, and Downtown Harborfront zones, mainly in the South. As indicated under the Rebuild Alternative discussion above, the potential loss of commercial and industrial land in the South may affect costs and availability of developable land there. This impact may affect future localized uses; however, it is not expected to influence long-term development trends for the project area.

Impacts to existing buildings will be similar to those described for the Rebuild Alternative. The aerial structure will be placed within the existing viaduct right-of-way as much as possible and is not expected to greatly affect adjacent land uses. Encroachment on existing uses will be much the same as with the current structure, and the barrier effect between the waterfront and downtown areas will continue. Opportunities for redevelopment will be similar to those of the Rebuild Alternative. Few new open space areas will be created by the proposed aerial structure. Land use patterns will thus be expected to remain largely similar to existing uses. Thus the character of adjacent land uses would not be influenced greatly by this alternative, which would generally reinforce the existing condition associated with the present structure. Some localized differences may occur where the new structure provides greater spacing between columns at ground level; however, this change would not provide substantial opportunities for new or different land uses surrounding the proposed aerial structure. Much of the existing parking beneath the current viaduct, however, will be removed under this alternative. Some of this parking may be replaced beneath the new Aerial Alternative; however, a net loss of approximately 360 on-street and off-street spaces is expected to result from this alternative.

The proposed structure for the Aerial Alternative will be nearly the same height as the existing viaduct, but it will be approximately 50 percent wider. The proposed increased width under this alternative could increase the structure's physical proximity to adjacent land uses, however, it should be noted that much of this increase is expected to occur within existing right-of-way and west of the current structure. In places along the route, the proposed structure could be approximately 5 to 7 feet higher than the existing structure; however, the overall height and scale will not vary greatly from the present design. Generally, height limitations in the land use zones through which the structure currently passes are consistent with the approximately 60-foot

height of the proposed Aerial Alternative. In relation to the existing land uses, the height of this structure will not affect buildings in its proximity.

The main exception to this consistency with zoning size requirements will occur along the waterfront. The DH1 and DH2 zones west of the existing viaduct generally limit building heights to between 45 to 55 feet. In many places, these height limits have resulted in the viaduct being higher than existing waterfront structures. To some, especially when viewed from the west, this has resulted in the appearance of the viaduct creating a wall between the waterfront and downtown businesses. In combination with the proposed increase in width under this alternative, replacing the existing structure with a new aerial structure will continue, and could worsen, this barrier effect, as noted above.

5.4.1 South – S. Spokane Street to S. King Street

Stacked Aerial

A new stacked aerial structure will be constructed in the south under this alternative. The aerial structure will begin at S. Walker Street and extend north to the BST. Although some changes in land uses on parcels to be acquired in this area will occur, these changes are not expected to substantially alter existing land uses. Because the new structure will be approximately twice the width of the existing structure from approximately Yesler Way to Seneca Street, this may result in concerns regarding the size of the structure and its potential to act as a barrier to east-west pedestrian movements in the south. This could affect access to waterfront businesses and activities at Piers 52, 53, 54, and 55 and may make this location less attractive for some land uses. It should be noted that much of the increased width is expected to occur within existing right of way, west of the current structure. Business impacts are discussed in more detail in Appendix P, Economic Technical Memorandum. Another concern, however, is the general emphasis given to the South as a pedestrian-oriented environment because of its proximity to the new baseball and football stadiums. To the extent that introduction of a new structure in this area could impede pedestrian movement and views, it may adversely affect the pedestrian environment. Land use impacts caused by proposed ramp connections at S. Royal Brougham Way and Columbia Street will be similar to those described for the Rebuild Alternative.

Option: SR 99 At-Grade With SR 519 Elevated Ramps

As an option, this alternative could include constructing an at-grade roadway in the South. Potential land use impacts associated with this at-grade option would be the same as described for the Rebuild Alternative.

5.4.2 Central – S. King Street to Battery Street Tunnel

Stacked Aerial

A new aerial structure will be largely the same as the existing structure that now passes through the Central area; however, it will be approximately 20 feet wider than the present structure. Access to and from downtown will remain. The existing Alaskan Way surface street will be widened toward the east between University Street and the BST, bringing the roadway closer to existing uses there. This could mean existing uses will experience somewhat higher noise levels than occur now; however, this impact will not be expected to displace existing land uses.

5.4.3 North Waterfront – Pike Street to Myrtle Edwards Park

Some changes in lane configurations and ramp connections will occur within the existing right-of-way and are not expected to result in changes to existing land uses.

5.4.4 North – Battery Street Tunnel to Ward Street

This alternative will largely follow the existing route in the North, and no major land use changes will be expected.

Battery Street Tunnel Improvements

Although the tunnel will be lengthened and other facility improvements will occur, these changes will not result in modifications to land uses.

Widened Mercer Underpass

The potential widening of the Mercer Street underpass for this alternative will continue to accommodate existing land uses in the area. The new roadway configuration and the bridge across Aurora Avenue will increase the proximity of the roadway to adjacent land uses, but these changes are not expected to result in changes to surrounding land uses.

Option: Lowered Aurora/SR 99

While Aurora Avenue would be lowered, access would be preserved to existing land uses under this option. New bridge structures would be introduced for crossing the lowered roadway, but these bridges would be constructed within the existing right-of-way and would not alter adjacent land uses. Ultimately, this option is expected to help facilitate connections to the South Lake Union area east of Aurora Avenue.

5.4.5 Seawall – S. King Street to Myrtle Edwards Park

Rebuilt Seawall

New Seawall construction will take place behind the existing Seawall and will not directly affect adjacent land uses. Temporary impacts to nearby land uses, resulting from noise and/or dust during construction, could occur and are addressed in Appendix F, Noise and Vibration Discipline Report and Appendix Q, Air Quality Discipline Report.

Option: Frame Seawall

As with the rebuild approach, construction of the Frame Option is not expected to affect adjacent land uses.

5.5 Tunnel Alternative

Approximately 25.7 acres of land area will be acquired under this alternative. Of this total, approximately 23.6 acres (91 percent) will be within the Industrial General, Industrial/Commercial, and Downtown Harborfront zones, primarily in the South. Conversion of this land will result in a reduction in the overall amount of developable industrial and commercial property, primarily in the South. As indicated above, this may have some localized impact on uses in the South; however, it is not expected to greatly influence development activity in the project area. The current structure will be removed and existing land uses will front on a new surface street between S. Holgate Street and S. King Street, and new open space between S. King Street and the BST. In addition to the potential for redevelopment of construction staging areas, the right-of-way above the proposed tunnel could also have redevelopment potential.

Upon removal of the existing structure, the land area that currently contains the viaduct will become available for other uses. The current corridor on which the viaduct is located runs the length of the downtown waterfront. Although this entire area may not be used for redevelopment, the resulting open space created by removal of the existing structure will create opportunities for new land uses there. The project corridor crosses through several adjacent land use zones, so future zoning for this corridor of land will likely be the primary determinant for the type of uses that will be allowed there. Current waterfront planning activities are expected to assist in determining future uses in the Central project area.

Despite the opportunity this area might provide, it should be noted that the redevelopment potential within the public right-of-way will be limited by a number of constraints. Along Alaskan Way, the City must accommodate wide sidewalks, as well as loading zones/curbside parking on both sides of

the street, a frontage road on the pier side to provide access to piers, bicycle lanes/trail, the trolley track(s), and four travel lanes and a turn lane for the Tunnel Alternative. These facilities will take up most of the Alaskan Way area and additionally, most of the street right-of-way is used as a major utility corridor for underground utilities. Access to these facilities will need to be maintained. Any potential development over the top of the tunnel will be difficult to construct and expensive. Finally, the provision of adequate vehicular access and parking for future development will be quite challenging.

Thus, it is expected that future development within this area will likely occur in the form of potentially modest extensions to existing buildings on the east side of Alaskan Way, or buildings that might extend slightly into the Alaskan Way right-of-way from parcels on the east. No development within this right-of-way is proposed as part of the Viaduct and Seawall Replacement Project.

Where the existing structure may form a barrier to access between the waterfront and adjacent land uses, this alternative will open up the potential for increased pedestrian traffic between downtown and the waterfront. Topography also plays a part in this effect because the central downtown area is at a higher elevation than the current right-of-way within which the viaduct is located. Where enhanced pedestrian access could be provided, the connection between business, retail, and service uses downtown and waterfront land uses will be increased.

As with the other Build Alternatives, existing parking spaces will be displaced by this alternative. A net loss of approximately 670 on-street and off-street parking spaces is expected to occur, resulting in increased competition for remaining parking areas. This alternative would also require tunnel vent structures in order to meet air quality requirements. Potential vent structure locations are near the tunnel portal south of King Street, near Yesler Way, and near Spring Street and Union Street. These buildings would likely be approximately 30 feet high, with vents of15 feet in height. These structures are not expected to exceed zoning height limitations, however, if the location changes and height limitations are exceeded, the potential exceedance would be inconsistent with adopted land use regulations. It is expected that if potential conflicts with zoning regulations occur, they would be addressed by conditional use permit requirements for the project.

5.5.1 South – S. Spokane Street to S. King Street

At-Grade With SR 519 Elevated Ramps

This alternative will continue the roadway at-grade through the South and will have similar impacts there as the other Build Alternatives (except for the

Aerial Alternative, which will be stacked in this area). Ramp connections at S. Atlantic Street and S. Royal Brougham Way will be the same as described in the Rebuild Alternative and will not affect existing uses. This alternative will not greatly change the potential for redevelopment in the south, as it will largely resemble the existing alignment.

Option: Side-by-Side Aerial

As an option, this alternative could include construction of a side-by-side aerial structure in the South. This structure would be similar to the existing elevated structure in the Central area, except that the northbound and southbound lanes would be side by side rather than stacked. Although much of this structure would be provided within the existing right-of-way, it is likely that this option would result in increasing the physical proximity of the roadway to existing land uses. While this may result in a closer physical proximity of the roadway to existing buildings in the South, it is not expected to change land uses located there.

5.5.2 Central – S. King Street to Battery Street Tunnel

Side-by-Side Tunnel

Opportunities for new development and connections between the waterfront and downtown will be greatest in the Central area. With removal of the existing structure, new pedestrian corridors could be provided between the downtown core and the waterfront in the Central area. At the same time, open space resulting from the removal of the existing structure could be used for new improvements, including future development and/or green spaces adjacent to the waterfront. Nearby land uses that may currently experience the existing structure as a barrier to the waterfront may benefit from new uses that may form a more convenient transition between downtown uses and waterfront activities.

5.5.3 North Waterfront – Pike Street to Myrtle Edwards Park

In the North Waterfront, land use impacts will be similar to those described for the Aerial Alternative.

5.5.4 North – Battery Street Tunnel to Ward Street

In the North, land use impacts will be similar to those described for the Aerial Alternative.

Battery Street Tunnel Improvements

The proposed improvements to the BST are not expected to affect adjacent land uses.

Widened Mercer Underpass

Proposed changes will occur within the existing right-of-way, and operational impacts are not expected to affect adjacent land uses.

5.5.5 Seawall – S. King Street to Myrtle Edwards Park

Tunnel Wall and Rebuild

New Seawall construction will take place behind the existing Seawall and will not directly affect adjacent land uses. Temporary impacts to nearby land uses, resulting from noise and/or dust during construction, could occur and are addressed in Appendix F, Noise and Vibration Discipline Report and Appendix Q, Air Quality Discipline Report.

5.6 Bypass Tunnel Alternative

This alternative will result in the need to acquire 25.7 acres of property along the project route. Of this total, approximately 23.5 acres (92 percent) will be in the Industrial General, Industrial/Commercial, and Downtown Harborfront zones, mostly within the South. As with the other Build Alternatives, this impact is not expected to greatly influence future development activity downtown.

Operation of this alternative after construction will have similar long-term impacts on land uses in the Central project area as those of the Tunnel Alternative. Impacts in the South and North project areas will be similar to those of the Surface Alternative. A net loss of approximately 710 on-street and off-street parking spaces is expected to occur, resulting in increased competition for remaining parking spaces.

5.6.1 South – S. Spokane Street to S. King Street

At-Grade With SR 519 Elevated Ramps

Impacts will be similar to those of the Rebuild Alternative.

5.6.2 Central – S. King Street to Battery Street Tunnel

Side-by-Side Bypass Tunnel

Impacts will be similar to those of the Tunnel Alternative.

5.6.3 North Waterfront – Pike Street to Myrtle Edwards Park

Impacts will be similar to those of the Rebuild Alternative. Land uses that presently benefit from existing traffic connections between the Interbay and Ballard areas in the north and the Duwamish planning area to the south, would be affected by changes in travel times under the Bypass Tunnel

Alternative. Travel times are expected to be slowed by increased congestion in the North Waterfront area resulting from this alternative. For land uses in the Interbay and Ballard areas, this would act to discourage growth of commercial uses supported by existing travel times, and may discourage the current and future presence of such uses there.

5.6.4 North – Battery Street Tunnel to Ward Street

Impacts will be similar to those of the Tunnel Alternative.

Battery Street Tunnel Improvements

The proposed improvements to the BST are not expected to affect adjacent land uses.

Widened Mercer Underpass

Proposed changes will occur within the existing right-of-way, and operational impacts are not expected to affect adjacent land uses.

5.6.5 Seawall – S. King Street to Myrtle Edwards Park

Tunnel Wall and Rebuild

New Seawall construction will take place behind the existing Seawall and will not directly affect adjacent land uses. Temporary impacts to nearby land uses, resulting from noise and/or dust during construction, could occur and are addressed in Appendix F, Noise and Vibration Discipline Report and Appendix Q, Air Quality Discipline Report.

5.7 Surface Alternative

This alternative will result in the need to acquire approximately 38.7 acres of property along the project route. Of this total, approximately 37.9 acres (98 percent) of the affected property is located within the Industrial General, Industrial/Commercial, and Downtown Harborfront zones, primarily in the South. This alternative will result in the greatest amount of land conversion, and therefore, the highest loss of developable commercial and industrial property. The majority of this loss will occur in the South, where most parcel acquisitions will be needed. If the railroad tail track were relocated north of S. Royal Brougham Way, the Surface Alternative would require a similar number of acquisitions and displacements as the Tunnel or Bypass Tunnel Alternatives.

As noted previously, this may make it difficult for some users to compete for the remaining land zoned for commercial and industrial uses; however, this is not expected to have a substantial impact on overall development activity. If

demand for commercial and industrial property increases, the loss of this space may make it difficult for small to mid-size businesses to locate in this area as property values rise. To the extent that localized impacts do occur, this alternative will have the greatest effect on land supply in the South.

Existing uses will be located along the new surface street, and existing access will likely be the same for many of these uses. Although a new surface road will not form the same physical barrier between the waterfront and upland uses, it will result in a new separation between these uses. For both vehicles and individuals desiring to reach the waterfront, it will be necessary to cross the new surface street. For bicyclists and pedestrians in particular, this may be difficult, depending on traffic levels on the new street and the types and numbers of crossings provided.

A net loss of approximately 720 on-street and off-street parking spaces will occur under this alternative. As with other alternatives, this loss is expected to result in increased demand for remaining parking in the vicinity of the proposed project route.

5.7.1 South – S. Spokane Street to S. King Street

At-Grade With SR 519 Elevated Ramps

Impacts for this alternative will be similar to those described for the Rebuild Alternative in the South.

Option: SR 99 At-Grade With SR 519 Ramp Connections At-Grade

As an option, this alternative could include at-grade construction without elevated access at SR 519. At-grade access may change the relationship of the proposed roadway to existing land uses, and a surface connection could be less imposing than the elevated connection. This difference is not expected to substantially impact existing land uses, and unless the surface connection results in direct displacement of existing buildings, land uses at this location are not expected to be greatly affected by this option.

5.7.2 Central – S. King Street to Battery Street Tunnel

As indicated above, although a new surface roadway will remove the existing elevated structure, the proposed traffic lanes will still be viewed as an obstruction to connections between downtown and the central waterfront. Adjacent land uses may experience more open views and an enhanced visual connection to the waterfront in the Central area. Fewer opportunities for new development and/or open space will result from this alternative than from construction of an underground tunnel; however, new connections to the waterfront will still be possible.

5.7.3 North Waterfront – Pike Street to Myrtle Edwards Park

Impacts will be similar to those of the Rebuild Alternative.

5.7.4 North – Battery Street Tunnel to Ward Street

Impacts will be the same as those described for the Aerial Alternative.

Option: Existing SR 99 With Added Signals at Roy, Republican, and Harrison Streets

Operational impacts of adding signals are not expected to affect existing land uses.

5.7.5 Seawall – S. King Street to Myrtle Edwards Park

Rebuilt Seawall

New Seawall construction will take place behind the existing Seawall and will not directly affect adjacent land uses. Temporary impacts to nearby land uses, resulting from noise and/or dust during construction, could occur and are addressed in Appendix F, Noise and Vibration Discipline Report and Appendix Q, Air Quality Discipline Report.

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Chapter 6 CONSTRUCTION IMPACTS

6.1 No Build Alternative

The existing structure will remain and no replacement activities will take place unless failure of part, or all, of the viaduct occurred (as indicated under Scenarios 2 and 3, described in Section 5.2). Periodic maintenance activities will take place that may require temporary closures of adjacent streets and sidewalks. These activities could affect access to nearby buildings, particularly if large sections of the existing roadway were under repair. Similarly, no construction on the Seawall will take place at this time; however, disruptions to nearby land uses for Seawall maintenance activities could occur in the future. Larger, more immediate construction needs will arise from failure of all, or part, of the Seawall, including potential flood damage to adjacent properties and buildings. Depending on the extent of this damage, impacts associated with construction activities could include loss of access, increases in noise and dust, temporary closures, and/or full displacement of adjacent properties and land uses resulting from the need for construction staging areas.

6.2 Rebuild Alternative

Construction activities will occur at different locations along the roadway, and under the Rebuild Alternative, construction activities could take approximately 7.5 years to complete. Temporary street closures and detours will be needed to accommodate equipment and vehicles required to reinforce and repair the existing structure. Construction equipment and activities will likely affect adjacent businesses and property owners over the length of construction time needed to rebuild the current roadway and viaduct structure. This could result in the loss of direct access to existing uses along the project route or the need for substantial detours to reach remaining properties. Proximity impacts such as increases in noise levels or dust from construction activities will also occur.

While it is not anticipated that construction will result in the loss of property within adjoining land use zones, the function of adjacent properties for applicable land uses may be diminished or precluded until construction activities are completed. While it is difficult to predict the extent of this potential impact, it is not expected to result in numerous changes to land uses. Economic impacts on local businesses and tourism are discussed in Appendix P, Economic Technical Memorandum.

The duration of access impacts may vary. For some parcels, impacts will occur only during construction activities at a given location, especially where direct access is provided. For other parcels dependent on the entire Viaduct Corridor, regional access will likely be affected for the entire duration of construction, until full use of the viaduct returns upon project completion.

During construction, on-street and off-street parking may be eliminated. Although some temporary parking may be provided, it is likely that most of the displaced parking spaces will be absorbed during construction by existing nearby lots and garages. Recent parking inventory data indicates that parking facilities are rarely fully occupied. Thus, while a decrease in local parking opportunities may occur, sufficient capacity is expected to remain for parking during the project construction period.

Under all of the Build Alternatives, a temporary disruption to the use of existing railway tracks at the rail yards in the South will also occur. Existing tracks will be removed from several parcels between S. Hanford Street and S. Atlantic Street during construction, as needed. This will likely require detours for trains using these tracks as part of their normal routes. It is anticipated that traffic on these tracks will be restored upon completion of the new structure in the South. Although these disruptions are considered temporary, because they will occur as part of the necessary construction activities for the project, it should be noted that construction durations under the Build Alternatives could last between 7.5 to 11 years.

Each of the Build Alternatives will also require use of Terminal 46 as a construction staging area. Terminal 46 is part of the Port of Seattle's large seaport operations and a major container ship facility. Although this acquisition may not be permanent, because construction could last between 7.5 to 11 years depending on the alternative chosen, it is possible that port usage will be affected by potential construction activities over several years. Potential acquisition for viaduct construction purposes could influence plans for redevelopment of terminal facilities. The City and the Port have discussed future redevelopment options for Terminal 46; however, firm plans for the terminal have not yet been developed.

The Downtown Waterfront Streetcar tracks will also be removed during construction under each of the Build Alternatives. The streetcar acts as a connection between land uses along the waterfront and is a popular tourist attraction. Temporary closure of the tracks may inconvenience tourists and other passengers, which may have some influence on visitation to some waterfront area land uses; however, long-term impacts are not expected from this move.

6.2.1 South – S. Spokane Street to S. King Street

Construction activities will occur in the South throughout the estimated construction duration for this alternative. Impacts, as described above, could occur throughout this time. During the early stages of construction in the South, provisions will be made to relocate parking and holding areas for ferry users. The Whatcom Rail Yard and BNSF railroad facilities will be removed, and the new connections to SR 519 will be constructed during this time. Traffic congestion and detours related to these activities may occur, and some adjustment time might be anticipated for ferry users to become familiar with new access provisions.

6.2.2 Central – S. King Street to Battery Street Tunnel

Construction in the Central area is expected to take up to 54 months for completion. Impacts such as noise, dust, congestion, and utility disruptions will be expected to occur throughout this time. Additional detail on these potential impacts is provided in Appendix F, Noise and Vibration Discipline Report; Appendix Q, Air Quality Discipline Report; Appendix O, Public Services and Utilities Technical Memorandum; and Appendix P, Economic Technical Memorandum.

6.2.3 North Waterfront – Pike Street to Myrtle Edwards Park

The primary construction activities in this location will be related to Seawall reconstruction and will take place over an estimated 2-year period of time. Although Seawall reconstruction is not expected to directly affect adjacent land uses, noise and dust from construction activities, as well as access restrictions, temporary utility disruptions, or detours, may occur during this time. These impacts are not expected to permanently alter existing land uses.

6.2.4 North – Battery Street Tunnel to Ward Street

Under the Rebuild Alternative, no improvements are proposed for the North; therefore, no construction impacts will occur.

6.2.5 Seawall – S. King Street to Myrtle Edwards Park

As indicated above, Seawall construction will take approximately 2 years, during which time impacts identified under Section 6.2.3 above could occur.

6.3 Aerial Alternative

Under the Aerial Alternative, construction will take approximately 11 years, and construction impacts along the project route will vary by location as the old structure is replaced with the new aerial structure. Because construction

of a temporary aerial structure will cause construction to last longer in certain locations than will rebuilding the existing structure, adjacent land uses may be affected for longer periods of time than they would under the Rebuild Alternative. In addition, the temporary aerial structure is likely to be in place for at least 8 years, and its proximity impacts on existing land uses will occur throughout this time. Those impacts could include physical presence of the structure contributing to noise and air quality concerns for nearby buildings. Other impacts might include long-term access detours for some uses, and the general presence of the structure could have similar barrier impacts as those of the existing structure. Appendix F, Noise and Vibration Discipline Report; Appendix Q, Air Quality Discipline Report; Appendix D, Visual Quality Technical Memorandum; and Appendix P, Economic Technical Memorandum include additional information about potential impacts associated with the temporary aerial structure.

Under each of the Build Alternatives, except for the Rebuild Alternative, southbound traffic will be detoured from SR 99 to Elliott Avenue via Broad Street during the construction period. This detour could result in temporary impacts on access to businesses along SR 99 but is not expected to result in long-term changes to land uses there. Potential economic impacts to businesses are addressed in Appendix P, Economic Technical Memorandum.

6.3.1 South – S. Spokane Street to S. King Street

Potential impacts will occur throughout the project construction period. As with the Rebuild Alternative, the primary activities that may affect southern properties will include relocating ferry parking, constructing SR 519 ramps, and removal of Whatcom Rail Yard railroad facilities. Although temporary impacts will occur as described above, these impacts are not expected to result in substantial changes to adjacent land uses.

6.3.2 Central – S. King Street to Battery Street Tunnel

Construction activity in this area will likely occur throughout much of the expected project duration. Temporary impacts will occur as described above.

Broad Street and Alaskan Way Surface Street Detour

This detour may result in temporary changes to access for some surrounding properties. These changes are not expected to result in long-term changes in land uses, although individual property owners may decide to relocate because of the potential length of the construction period. More information on impacts to businesses and property owners is provided in Appendix P, Economic Technical Memorandum and Appendix K, Relocations Technical Memorandum.

Option: Battery Street Flyover Detour

As with potential detours for Broad Street and Alaskan Way, this option may alter access to and from surrounding properties during construction. It may also lead to some additional concerns for air and noise impacts on the Art Institute building. These impacts are described in Appendix F, Noise and Vibration Discipline Report and Appendix Q, Air Quality Discipline Report. No long-term impacts to local land uses are expected to result from this option.

6.3.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activity in this area will likely occur throughout much of the expected project duration. Temporary impacts will occur as described above.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.3.4 North – Battery Street Tunnel to Ward Street

Construction impacts may occur in the North during improvements to the BST and Mercer Street widening. These impacts are not expected to result in substantial long-term changes in land uses.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.3.5 Seawall – S. King Street to Myrtle Edwards Park

Seawall reconstruction will take place over an estimated 2-year time period. Although Seawall reconstruction is not expected to directly affect adjacent land uses, noise and dust from construction activities, as well as access restrictions, temporary utility disruptions, or detours, may occur during this time. These impacts are not expected to permanently alter existing land uses. They could have relatively short-term impacts on local businesses. Appendix P, Economic Technical Memorandum provides additional information on business impacts related to construction and longer-term operations of the proposed roadway.

6.4 Tunnel Alternative

Under the Tunnel Alternative, the potential construction duration is estimated to take up to 9 years for completion. Thus, potential impacts experienced by adjacent land uses from construction-related activities will last longer under this alternative than under the Rebuild Alternative and shorter than under the Aerial Alternative.

6.4.1 South – S. Spokane Street to S. King Street

At-grade construction activities will occur between S. Holgate Street and S. King Street, and access disruptions as well as disturbances related to proximity impacts such as construction noise and dust could affect adjacent land uses in this area. As with the other alternatives, SR 519 connections, railroad track removals, and the relocation of ferry traffic may also cause congestion on streets providing access to surrounding properties. These impacts are not expected to result in substantial long-term impacts on local land uses.

6.4.2 Central – S. King Street to Battery Street Tunnel

Construction activities are likely to affect the Central area throughout much of the expected project duration. Construction activities associated with the tunnel will likely cause impacts on adjacent properties such as noise, dust, utility disruptions, and detours as described for the other Build Alternatives. Although these activities are not expected to result in substantial land use changes, because of their potential duration, some businesses and other uses may choose to relocate from this area. More information for impacts on businesses and individual properties is provided in Appendix P, Economic Technical Memorandum and Appendix K, Relocations Technical Memorandum.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

Option: Battery Street Flyover Detour

Impacts would be similar to those described in Section 6.3.2 above.

6.4.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activity in this area will likely occur throughout much of the expected project duration. Temporary impacts will occur as described above.

Broad Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.4.4 North – Battery Street Tunnel to Ward Street

Improvements to the BST and the potential widening of Mercer Street are the primary activities that could affect land uses in the North. These activities will cause similar disruptions as other construction impacts and are not expected to result in long-term changes to land uses.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.4.5 Seawall – S. King Street to Myrtle Edwards Park

Seawall reconstruction will take place over an estimated 2-year time period. Although Seawall reconstruction is not expected to directly affect adjacent land uses, noise and dust from construction activities, as well as access restrictions, temporary utility disruptions, or detours, may occur during this time. These impacts are not expected to permanently alter existing land uses. Short-term impacts may affect businesses, and additional information on these potential impacts is provided in Appendix P, Economic Technical Memorandum.

6.5 Bypass Tunnel Alternative

Construction activities for the Bypass Tunnel Alternative could take up to 8.5 years for completion. This will be less time than is estimated for the Aerial and Tunnel Alternatives and more time than for the Rebuild and Surface Alternatives. Impacts will be similar to those of the other Build Alternatives as described below.

6.5.1 South – S. Spokane Street to S. King Street

In the South, impacts on land uses related to construction activities for railroad facilities, ferry traffic, and SR 519 connections will be similar to those of the Tunnel Alternative.

6.5.2 Central – S. King Street to Battery Street Tunnel

Construction activity in this area will likely occur throughout much of the expected project duration. Temporary impacts will occur as described above.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

Option: Battery Street Flyover Detour

Impacts would be similar to those described in Section 6.3.2 above.

6.5.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activity in this area will likely occur throughout much of the expected project duration. Temporary impacts will occur as described above.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.5.4 North – Battery Street Tunnel to Ward Street

Impacts on adjacent land uses from improvements to the BST and Mercer Street will be similar to those described for the other Build Alternatives.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.5.5 Seawall – S. King Street to Myrtle Edwards Park

Seawall reconstruction will take place over an estimated 2-year time period. Although Seawall reconstruction is not expected to directly affect adjacent land uses, noise and dust from construction activities, as well as access restrictions, temporary utility disruptions, or detours, may occur during this time. These impacts are not expected to permanently alter existing land uses. Short-term impacts on businesses may occur. These impacts are identified in Appendix P, Economic Technical Memorandum.

6.6 Surface Alternative

Construction activities for the Surface Alternative could take approximately 8 years. This would be the shortest potential construction duration among the build alternatives. Impacts associated with construction activities under this alternative are described below.

6.6.1 South – S. Spokane Street to S. King Street

Impacts will be similar to those described for the other Build Alternatives.

6.6.2 Central – S. King Street to Battery Street Tunnel

Construction activity in this area will likely occur throughout much of the expected project duration. Temporary impacts will occur as described above.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.6.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activity in this area will likely occur throughout much of the expected project duration. Temporary impacts will occur as described above.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.6.4 North – Battery Street Tunnel to Ward Street

Impacts will be similar to those described for the other Build Alternatives.

Broad Street and Alaskan Way Surface Street Detour

Impacts will be similar to those described in Section 6.3.2 above.

6.6.5 Seawall – S. King Street to Myrtle Edwards Park

Seawall reconstruction will take place over an estimated 2-year time period. Although Seawall reconstruction is not expected to directly affect adjacent land uses, noise and dust from construction activities, as well as access restrictions, temporary utility disruptions, or detours, may occur during this time. These impacts are not expected to permanently alter existing land uses. Impacts to local businesses may occur and are identified in more detail in Appendix P, Economic Technical Memorandum.

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Chapter 7 SECONDARY AND CUMULATIVE IMPACTS

The Build Alternatives will contribute to cumulative impacts on adjacent land uses that may result from other projects that may occur along, or near, the proposed project route. Presently, plans for the expansion of the Seattle Aquarium, construction of the new Olympic Sculpture Park, expansion of the Seattle Monorail, and potential changes to Terminal 46 are anticipated that will add to the impacts on the project area that will be experienced during AWV construction. In addition, other development projects along the project route will be expected to occur during the construction period for any of the proposed AWV improvements. This would include the following projects:

Central Link Light Rail, Colman Dock Ferry Terminal, Mercer Street Corridor, and SR 519 improvements. Additionally, many private development projects would be expected to occur during the expected construction duration for potential AWV build alternatives. This general development would include private land use actions such as residential, retail and commercial development identified by location as follows: Belltown/Queen Anne Proposed Development, Seattle Downtown Proposed Development, and South Lake Union Proposed Development. Taken together, these projects will be expected to contribute noise, dust, and traffic congestion to the project area during construction, which will add to impacts on adjacent land uses there.

Depending on the alternative selected, replacement of the Alaskan Way Viaduct may influence future land uses in the project area. In the South, the proposed Build Alternatives could indirectly help stimulate changes in land uses for Terminal 46, where land uses may differ from the containerized cargo handling facility that is there today, have been contemplated by the City and the Port of Seattle. Improved connections to the new structure, via proposed ramps at S. Royal Brougham Way and S. Atlantic Street, could add to influences on local land uses that have resulted from recent stadium development in the area. Although the project may not result in creating large areas of land for redevelopment, changes in land uses may be encouraged by the overall improvement associated with the new roadway.

The proposed project's potential overall influence on growth in the project area is difficult to predict. As this report indicates, while there may be opportunities for additional development under the Build Alternatives, the potential for large-scale redevelopment as a result of viaduct and seawall replacement is not expected to be substantial. The proposed project represents one of the numerous ongoing improvements occurring in the city and the downtown area in particular. Because the project is replacing an

existing facility, its role as a potential inducement to downtown growth will not likely be as great as that of providing a new transportation route to the area. The City is currently engaged in efforts to develop a new Central Waterfront Plan which will also contribute toward determining the types and areas of future land uses along the waterfront.

It is clear that the new facility has the potential to make the downtown area more attractive, particularly in the case of the Tunnel and Bypass Tunnel Alternatives, which will remove the existing aboveground structure. Physical appeal combined with ease of travel may attract new interest to the area. Many other factors, however, influence land use decisions, including economic conditions, zoning, and land supply. The proposed project is not likely to have large, if any, influences on these factors and therefore is not expected to be a major catalyst to future growth. Cumulatively, impacts from the build alternatives would contribute to impacts associated with other proposed and future changes that may occur in the waterfront area. The potential replacement project is being integrated in current planning efforts for the central waterfront and downtown area, and those efforts may have a greater influence on the future of this area than would replacement of the viaduct and seawall alone.

The most direct influences on local land uses resulting from the project will likely occur in the Central area. Any of the Build Alternatives will result in changes in the relationship between the waterfront and upland properties leading to the downtown core. To the extent that the existing viaduct has been viewed as a detriment or physical barrier to waterfront uses, new development may take place around the new roadway. The Tunnel and Bypass Tunnel Alternatives in particular could encourage such development because of the land area that will become available by placing the new structure underground. Although several types of development may consider using this space, it is likely that residential and recreational uses could be encouraged to locate in this area. Any future development within the public right-of-way area created by removal of the existing structure will, however, be subject to the same constraints identified in Section 5.5 above. Ultimately, these constraints may limit the redevelopment potential along this corridor.

In the North, land use changes may be promoted by enhanced connections to the new roadway. Like the South, less physical space will result here than in the Central area; however, the roadway could have an indirect impact of stimulating some new development nearby. Except for the Rebuild Alternative, each of the Build Alternatives provides for improvements that will result in reconnection of a portion of the proposed South Lake Union surface street grid. These improvements may also have an indirect impact

that would act to facilitate travel between the northern viaduct project area and the South Lake Union neighborhood, which will be supportive of land uses in these areas.

Completion of a new roadway in place of the existing viaduct, in combination with other projects such as the new aquarium and sculpture park, may make the downtown area more desirable for residential uses. In recent years, the Downtown core, as well as the Pioneer Square and Belltown neighborhoods, has experienced increases in residential development. The Viaduct and Seawall Replacement Project could also provide added momentum to plans for waterfront redevelopment such as that contemplated for Terminal 46.

Additionally, improved connections downtown could indirectly result in renewed business interest there, which could also lead to new commercial or retail uses in the downtown core, or along designated corridors leading to the waterfront. As noted earlier, neighborhoods at the southern or northern end of the proposed replacement route may experience some land use changes related to the roadway. Where improved connections to the downtown core and the waterfront may facilitate commute trips from these neighborhoods, some development activity may be stimulated by the desirability of this connection.

While access improvements downtown are expected to result under the Build Alternatives, the extent to which traffic flow and circulation might be improved is uncertain. Particularly for the Surface Alternative, where existing capacity will be reduced through the Central area, increased congestion on nearby streets is possible. Degradation of existing traffic conditions for downtown travel could discourage trips there, which may negatively affect business conditions. Appendix C, Transportation Discipline Report presents additional information on trip distribution, levels of service, and traffic conditions expected to result from the project. Additional information regarding potential business impacts is provided in Appendix P, Economic Technical Memorandum.

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Chapter 8 OPERATIONAL MITIGATION

8.1 No Build Alternative

Mitigation is not required for the No Build Alternative.

8.2 Mitigation Common to All Build Alternatives

Mitigation measures for land use impacts are not proposed. Measures for impacts on individual buildings and parcels are presented in Appendix K, Relocations Technical Memorandum.

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Chapter 9 CONSTRUCTION MITIGATION

9.1 No Build Alternative

Mitigation is not required for the No Build Alternative.

9.2 Mitigation Common to All Build Alternatives

Advance notice of construction activities, utility disruptions, and detours could be provided to property owners in the project area.

Construction activities could be limited during major special events at downtown stadiums, along the waterfront, and at Seattle Center and other project areas.

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Chapter 10 PERMITS AND APPROVALS

The proposed project will require a number of permits and approvals by state and local agencies. Many of these permits and approvals do not specifically involve land use considerations; however, a few may be related to existing land uses. Federal, state, and local permits and approvals related to land use are listed below:

- Seattle Shoreline Substantial Development Permit
- Seattle Shoreline Conditional Use Permit
- Underground Storage Tank Removal Permit
- Seattle Street Use Permit
- Seattle Demolition Permit
- Seattle Land Use approval for construction-related uses (including construction staging, service yards, etc.)
- Federal Comprehensive Environmental Response, Compensation, and Liability Act Approval
- Washington Model Toxics Control Act Approval
- Section 4(f) Approval
- Historic/Archaeological Approval
- Seattle Utility Relocation Approval
- King County METRO Utility Relocation Approval

Conditions attached to these permits and approvals may affect the removal or relocation of existing buildings and structures along the project route. Each of the Build Alternatives may encounter buildings or structures that will be subject to federal, state, or local review under these regulations. A complete list of all federal, state, and local permits and approvals will be provided in the Environmental Impact Statement for this project.

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